CITY OF NEW YORK

BOROUGH OF MANHATTAN

MARCUS M. MARKS, President

BUREAU OF BUILDINGS

20th Floor, Municipal Building
Centre and Chambers Streets

MARCH 14, 1916

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(See Notice on Back Cover)

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CITY OF NEW YORK

CODE OF ORDINANCES

CHAPTER 5

BUILDING CODE

Article 1

General Provisions

(In effect March 14, 1916)

1 §1. **Scope.** 1. *Short title.* This chapter shall be known and cited as the Building Code.

2. *Matter covered.* All matters concerning, affecting or relating to the construction, alteration or removal of buildings or structures, erected or to be erected in the city are presumptively provided for in this chapter, except in so far as such provisions are contained in the Charter, the Tenement House Law, the labor law, or the rules promulgated in accordance with the provisions of this chapter by the superintendents of buildings of the several boroughs.

3. *Chapter remedial.* This chapter is hereby declared to be remedial, and shall be construed liberally, to secure the beneficial interests and purposes thereof.

4. *All new work to conform.* No wall, structure, building or part thereof shall hereafter be constructed, nor shall the plumbing nor drainage, or other equipment, of any building, structure or premises, so far as provided for in this chapter, be constructed or altered in the city, except in conformity with the provisions of this chapter. No building already erected, or hereafter to be built in said city, shall be altered in any manner that would be in violation of any of the provisions of this chapter, or any rule or approval of the superintendent of buildings made and issued thereunder; but nothing in this chapter shall prohibit the raising or lowering of any building to meet a change of grade in the street on which it is located, provided that the building is not otherwise altered.

5. *Undeveloped localities.* In such parts of the city outside the fire limits and suburban limits, in which a system of streets has not been established only so much of the requirements of this chapter shall apply as in the judgment of the superintendent of buildings may be necessary for safety of life and health; but this shall not be construed to permit the

erection of any building to exceed in height or area the limits fixed by this chapter for such buildings.

6. *Buildings affected.* All provisions of this chapter shall apply with equal force to municipal buildings as they do to private buildings, except as may be specifically provided for by law.

§2. **Definitions.** Unless otherwise expressly stated, the following terms shall, for the purposes of this chapter, have the meaning herein indicated: 2

a. Words used in the present tense include the future; words in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural the singular; the word "person" includes a corporation as well as an individual; "writing" includes printing, and printed or typewritten matter; "oath" includes affirmation; "signature" or "subscription" includes "mark", when the person cannot write, his name being written near it.

b. The term "occupied" as applied to any building, shall be construed as though followed by the words "or intended, arranged or designed to be occupied."

c. The term "approved" as applied to any material, device or mode of construction, means approved by the superintendent of buildings under the provisions of this chapter, or by any other authority designated by law to give approval in the matter in question.

d. The term "owner" includes his duly authorized agent or attorney, a purchaser, devisee, and any person entitled to an interest in the property in question.

e. An alteration, as applied to a building or structure, is any change or rearrangement in the structural parts or in the exit facilities, or any enlargement, whether by extending on any side or by increasing in height, or the moving from one location or position to another.

f. The term "curb" when used in defining the height of a building means the mean curb level at that front of the building which faces on the street of greatest width, or, if the greatest width occurs on more than one of the streets on which the building faces, the mean curb level at that point of the building which faces on the street of greatest width and having the highest curb.

The term "curb" when used in fixing the depth of an excavation, means the curb level at that point of the curb which is nearest to the point of the excavation in question.

g. The term "height" as applied to a building or structure means the vertical distance, measured in a straight line from the curb level, or if the grade of the street has not been legally established or the building does not adjoin the street, from the average level of all the ground adjoining

such building, to the highest point of the roof beams in the case of flat roofs, and to the average height of the gable in the case of roofs having a pitch of more than twenty degrees with a horizontal plane.

h. A story is that part of any building comprised between any floor and the floor or roof next above.

i. A tenement house is a building as defined in the Tenement House Law.

j. A garage is a building, shed or enclosure, or any portion thereof, in which a motor vehicle, containing volatile inflammable oil in its fuel storage tank, is stored, housed or kept.

3 §3. **Application for permits.** 1. *For construction or alteration.* Before the construction or alteration of any building, wall or structure, or any part of either, or of any platform, staging or flooring to be used for standing or seating purposes, and before the construction or alteration of the plumbing or drainage of any building, structure or premises is commenced, the owner or lessee, or agent of either, or the architect or builder employed by such owner or lessee in connection with the proposed construction or alteration, shall submit to the superintendent of buildings a detailed statement in triplicate of the specifications, on appropriate blanks to be furnished to applicants by the bureau of buildings, and such plans and structural detail drawings of the proposed work as the superintendent of buildings may require. Such statement, constituting an application for a permit to construct or alter, shall be accompanied by a further statement in writing, sworn to before a notary public or commissioner of deeds, giving the full name and residence of each of the owners of said building, or proposed building, structure or proposed structure, premises, wall, platform, staging or flooring, and by a diagram of the lot or plot on which such construction or alteration is to be made, showing the exact location of any proposed new construction and all existing buildings or structures that are to remain.

2. *Authorization of owner.* If the construction, alteration or plumbing or drainage or the alteration thereof, is to be made or executed by any other person than the owner of the land in fee, the person intending to make such construction or alteration, or to construct such plumbing or drainage, shall, either as owner, lessee, or in any representative capacity, accompany the application to build or alter with a statement in writing, sworn to as aforesaid, giving the full name and residence of each of the owners of the land, building, or proposed building, structure or proposed structure, premises, wall, platform, staging or flooring, and reciting that he is duly authorized to perform said work. Such

statement may be made by the agent or architect of the person hereinbefore required to make the same.

3. *Notice to demolish.* Before any existing building or part of an existing building is demolished, a statement in writing on appropriate blanks to be furnished by the bureau of buildings, constituting a notice to demolish, shall be submitted to the superintendent of buildings by the owner or any person authorized by the owner, giving the full name and residence of each of the owners of the building to be demolished, the name and business address of the person who is to do the work and such other information respecting the building as the superintendent of buildings may require. Such notice shall be submitted not less than forty-eight hours before the work of demolition is commenced.

4. *Place of filing.* All applications, notices and sworn statements required by this section, and copies of the approved plans shall be kept on file in the office of the superintendent of buildings. Applications shall be promptly docketed as received. For purposes of identification and reference all such papers shall be marked with the block and lot number of the property to which they apply, and with the street and house number when possible.

5. *Amendments.* Nothing in this chapter shall prohibit the filing of amendments to any application at any time before the completion of the work for which permit was sought, and such amendments, after approval, shall be made part of the application and filed as such.

6. *Ordinary repairs excepted.* Ordinary repairs to buildings or structures, or to the plumbing and drainage thereof, may be made without notice to the superintendent of buildings, but such repairs shall not be construed to include the cutting away of any wall or any portion thereof, the removal or cutting of any beams or supports, or the removal, change or closing of any stairway or required means of exit, or the alteration of any house sewer, private sewer or drainage system, or the construction of any waste pipe.

§4. **Permits.** 1. *Approval of applications.* It shall 4
be unlawful to construct or alter any building, structure, wall, platform, staging or flooring, or any part thereof, or any plumbing and drainage, until the application and plans required by § 3 of this article shall have been approved by the superintendent of buildings, and a written permit issued by him. The superintendent of buildings shall approve or reject any application or plan, or amendment thereto, filed with him pursuant to the provisions of this article within a reasonable time and, if approved, shall promptly issue a permit therefor.

2. *Approval in part.* Nothing in this section shall be construed to prevent the superintendent of buildings from approving and issuing a permit for the construction of part of a building or structure, when plans and detailed statements have been presented for the same, before the entire plans and detailed statements of said building or structure have been submitted or approved.

3. *Signature to permit.* Every permit issued by the superintendent of buildings under the provisions of this chapter shall have his signature affixed thereto, but this shall not prevent the superintendent from authorizing any subordinate to affix such signature.

4. *Limitations.* Any permit issued by the superintendent of buildings under the provisions of this article, but under which no work is commenced within one year from the time of issuance, shall expire by limitation.

5. *Compliance with plans.* The construction or alteration of any building, structure, platform, staging or flooring, or of any plumbing or drainage, shall be in accordance with the approved detailed statement of specifications and plans, for which the permit was issued, or any approved amendment thereof. The superintendent may require a certified copy of the approved plans to be kept at all times on the premises from the commencement of the work to the completion thereof.

6. *Adherence to diagram.* The location of any new building or structure, or of any extension to an existing building or structure, shown on the diagram filed as required by § 3 of this article, or on any approved amendment thereof, shall be strictly adhered to. It shall be unlawful to reduce or diminish the area of any lot or plot, a diagram of which has been filed with an application to construct or alter and has been used as the basis for a permit, unless the building or structure for which the permit was issued complies in all respects with the requirements of this chapter for buildings or structures located on plots of such diminished area, provided, however, that this shall not apply to any case in which the lot area is reduced by reason of any street opening or widening or other public improvement.

7. *Revocation.* The superintendent of buildings may revoke any permit or approval issued under the provisions of this article, in the case of any false statement, or any misrepresentation as to a material fact in the application on which the permit or approval was based.

5 §5. **Certificate of occupancy.** 1. *New buildings.* No building hereafter erected shall be occupied or used, in whole or in part, for any purpose whatever until a certificate of occupancy shall have been issued by the superintendent of

buildings certifying that such building conforms substantially to the approved plans and specifications and the requirements of this chapter applying to buildings of its class and kind.

2. *Buildings hereafter altered.* No building hereafter altered, which was vacant during the progress of the work of alteration, shall be occupied or used, in whole or in part, for any purpose whatever, until a certificate of occupancy shall have been issued by the superintendent of buildings certifying that the work for which the permit was issued has been completed substantially in accordance with the approved plans and specifications and the provisions of this chapter applying to such an alteration; and when the occupancy or use of a building has continued during the work of alteration, the occupancy or use of the building shall not continue for more than thirty days after completion of the alteration unless such certificate shall have been issued.

3. *Existing buildings.* Nothing in this section shall prevent the continuance of the present occupancy and use of any now existing building, except as may be specifically prescribed by this chapter or as may be necessary for the safety of life or property. Upon written request from the owner, the superintendent of buildings shall issue a certificate of occupancy for any now existing building, certifying, after verification by inspection, the occupancy or use of such building, provided that at the time of issuing such certificate there are no notices of violation, or other notices or orders pending in the bureau of buildings.

4. *Change of occupancy.* No change of occupancy or use shall be made in any building or part thereof, hereafter erected or altered, that is not consistent with the last issued certificate of occupancy for such building. In case of any now existing building, no change of occupancy that would bring it under some special provision of this chapter, shall be made, unless a certificate is issued by the superintendent of buildings certifying that such building conforms to the provisions of this chapter with respect to buildings hereafter altered for the proposed new occupancy and use.

5. *Temporary occupancy.* Upon request of the owner or his authorized representative, the superintendent of buildings shall issue a temporary certificate of occupancy for part of a building, provided that such temporary occupancy or use would not in any way jeopardize life or property.

6. *Contents of certificate.* In addition to the certification when required by this section, as to compliance with approved plans and specifications, and provisions of this chapter, all certificates of occupancy shall state the purposes for which the building may be used in its several parts, the maximum permissible live loads on the several floors, the

number of persons that may be accommodated in the several stories, in case such number is limited by any provision of this chapter or the approved specifications, and all special stipulations of the permit, if any.

7. *Issuance and filing.* Certificates of occupancy shall be issued within ten days after written application therefor, if said building at the date of such application shall be entitled thereto. A record of all certificates shall be kept in the bureau of buildings and copies shall be furnished, on request, to any person having a proprietary interest in the building affected.

6 §6. **Modifications.** In exercising his powers to vary the provisions of this chapter, or any rule authorized thereunder, the superintendent of buildings shall proceed in accordance with the provisions of the Greater New York Charter establishing that power. A record of all modifications shall be kept in the bureau of buildings, properly indexed and open to public inspection during business hours. All modifications, including the applicant's petition for same and the superintendent's reasons for granting, shall be published in full in the CITY RECORD within two weeks after the superintendent's action, and may be cited as precedents.

7 §7. **Rules.** 1. *Authority to adopt rules.* The superintendent of buildings shall have power to adopt such rules with respect to the materials and mode of construction, consistent with the provisions of this chapter, as may be necessary to secure the intent and purposes of this chapter and a proper enforcement of its provisions. For any provisions of this chapter referring to the rules or requiring approvals of materials or modes of construction, such superintendent shall adopt, when this section becomes effective or as the necessity may arise, such rules as are required or will establish the conditions of approval. So far as practicable such rules shall be uniform in all the boroughs.

2. *Procedure.* No rule adopted by the superintendent of buildings shall become effective until it shall have been published in the CITY RECORD on eight successive Mondays, and until a public hearing on the same shall have been held, provided, however, that said public hearing shall not be necessary for the purposes of this chapter unless a request shall have been made for such hearing during the said period of publication. Any rule adopted and promulgated as herein provided shall have the same force and effect as any provision of this chapter. All rules heretofore legally promulgated and in force at the time when this section becomes effective shall continue in force, provided they are not inconsistent with any provision of this chapter.

3. *Amendment and repeal.* The superintendent of buildings may amend or repeal any rule by the same procedure prescribed for the adoption of new rules.

§8. **Approved materials, appliances and methods of construction.** Whenever any materials, appliances or methods of construction have been approved by the superintendent of buildings as conforming to tests prescribed by this chapter, or to any rules adopted thereunder, a notice to that effect shall be published in the CITY RERORD, including information as to the conditions under which said materials, appliances or methods of construction were tested and approved. A list of such materials, appliances and methods of construction shall be kept on file in the bureau of buildings, properly indexed and open to public inspection during business hours. 8

§9. **Seal of building bureau.** Each superintendent of buildings may adopt a seal and direct its use in his bureau. 9

§10. **Right of entry of officers and employees.** Any officer of employee of the bureau of buildings, so far as it may be necessary for the performance of his duties, shall have the right to enter any building or premises in said city upon showing his badge of office. 10

ARTICLE 2

Materials

(In Effect March 30, 1915.)

§20. **Quality of materials.** All building materials shall be of a quality to meet the intent of this chapter, and shall conform to such specifications, consistent with the requirements of this chapter, as may be promulgated by the superintendents of buildings. 20

§21. **Weight of materials.** The weights of various materials in pounds per cubic foot shall be assumed to be as follows: 21

Brickwork	120
Concrete, cinder, used for floor arches or slabs	108
Concrete, cinder, used for filling over fireproof floors	60
Concrete, stone	144
Granite, bluestone and marble	168
Limestone	156
Sandstone	144
Oak and longleaf yellow pine	48
Spruce, fir, hemlock, white pine and shortleaf yellow pine	30

22 §22. **Tests.** 1. *When required.* New structural material, or structural material not otherwise provided for in this chapter, shall be subjected to such tests, to determine its character and quality, as the superintendent of buildings shall direct. Appliances and devices required by any of the provisions of this chapter and new methods of construction shall be subjected to such tests to determine their efficiency, as the superintendent of buildings may direct. Such tests as may be required under this section shall be described in rules promulgated by the superintendent of buildings.

2. *Tests of materials.* All tests shall be conducted under the supervision of the superintendent of buildings, or his authorized representative. Laboratory tests shall be conducted at a testing laboratory of recognized standing. A superintendent of buildings conducting a test under the provisions of this section shall notify the superintendents of buildings of the other boroughs at least three days in advance of such test.

3. *Approval.* Any material, appliance, or method of construction meeting the requirements of this chapter or the specifications authorized thereunder shall be approved within a reasonable time after the completion of the tests. All such approvals and the conditions under which they are issued shall be published in the City Record within a month after issuance, and a complete list of all such approvals issued during the year shall be included in the annual report of the superintendent of buildings. The superintendent of buildings may prohibit the use of any material or appliance failing to conform to the requirements of this chapter or to the rules adopted thereunder.

4. *Conditions attaching to approvals.* Materials, appliances or methods of construction which have been tested and approved shall be used and installed in accordance with the terms of the approval. So far as practicable all materials and appliances for which approvals have been issued shall have a distinctive brand mark for identification impressed on or otherwise attached to them. It shall be unlawful to use

any such brand mark on any other material or appliance than that for which the approval was issued.

5. *Additional tests.* The superintendent of buildings may require any tests to be repeated if there is any reason to believe that the material or appliance is no longer up to the specifications on which the approval was based.

§23. **Brick.** The brick used in the construction of buildings shall be sound, well burnt brick. When old brick are used in any wall they shall be thoroughly cleaned before being used, and shall be whole and good, hard, well burnt brick. 23

§24. **Sand.** The sand used for building construction shall be clean, sharp, coarse and silicious. 24

§25. **Lime.** Quick lime and hydrated lime shall conform to such specifications as may be promulgated by the superintendent of buildings, or, in the absence of such specifications, with the standard specifications of the American Society for Testing Materials. 25

§26. **Cement.** Portland and natural cements shall conform to such specifications as may be promulgated by the superintendent of buildings in accordance with the provisions of this chapter, or, in the absence of such specifications, with the standard specifications of the American Society for Testing Materials. 26

§27. **Mortar.** 1. *Cement.* Cement mortar shall be made of cement and sand in the proportion of 1 part of cement and not more than 3 parts of sand by volume, or, in the case of bag mortars prepared under rules promulgated by the superintendent of buildings, in such proportion that the tensile strength per square inch at the age of 28 days shall be not less than 250 pounds when Portland cement is used, and 125 pounds when natural cement is used. Cement mortar shall be thoroughly mixed and shall be used immediately after the addition of water. Not more than 15 per cent. of the cement by volume may be replaced by an equal volume of lime. 27

2. *Cement and lime.* Cement-lime mortar shall be made of 1 part of lime, 1 part of cement and not more than 3 parts of sand to each by volume.

3. *Lime.* Except as may be otherwise provided, lime mortar shall be made of 1 part of slacked lime, lime putty or dry hydrated lime and not more than 4 parts of sand by volume.

§28. **Concrete.** 1. *Mixture.* Except as may be otherwise provided in this chapter, concrete shall be made of 1 part of cement, and not more than 2½ parts of sand and 5 parts of coarse aggregate. 28

2. *Aggregate.* The coarse aggregate shall be granite, trap rock, gravel or other hard, durable material that may be

approved by a rule of the superintendent of buildings. When gravel is used it shall be thoroughly washed. Where mass concrete is used, the coarse aggregates shall be of such size as will pass through a two-inch ring. All aggregates shall be free from dust or other deleterious material.

3. *Consistency.* All concrete shall be a wet mixture, and shall be placed in forms immediately after mixing, and well tamped. No concrete shall be used after initial set has begun.

4. *Forms.* All forms and centering shall be built in a substantial manner, and with joints sufficiently tight to prevent leakage of the cement. They shall be properly supported and braced as to safely sustain all the load that may be placed upon them during construction.

5. *Joints in concrete.* Joints formed between portions of concrete placed at different times shall be made in a manner not to injure the completed structure. Before fresh concrete is joined to concrete which has set or partially set, the surface of the old concrete shall be roughened, cleaned and thoroughly wet.

6. *Precautions against freezing.* No materials containing frost or that are frozen shall be used. Precaution shall be taken to prevent concrete from freezing. After it has been placed in position a temperature above 32 degrees F. shall be maintained, by artificial means if necessary, until the concrete has its initial set.

29 §29. **Hollow building blocks.** 1. *Concrete.* Hollow building blocks of concrete shall be made of Portland cement and suitable aggregates in such proportions as to develop at the age of 28 days an ultimate crushing strength per square inch of gross area of not less than 750 pounds when tested with the cells placed vertically and 300 pounds when tested with the cells placed horizontally.

2. *Terra cotta.* Hollow building blocks of terra cotta shall be sound, hard and well burnt and shall develop an ultimate crushing strength per square inch of gross area of not less than 1,200 pounds when tested with the cells placed vertically and 300 pounds with the cells placed horizontally.

3. *Absorption.* The absorption of hollow building blocks to be used for bearing or enclosing walls shall not exceed 12 per cent. in 48 hours as an average, nor more than 15 per cent. in any case.

30 §30. **Iron and steel.** 1. *Cast iron.* Cast iron shall be of good foundry mixture, producing a clean, tough, gray iron. It shall conform to such specifications as may be promulgated by the superintendent of buildings, or, in the absence of such specifications, to the standard specifications of the American Society for Testing Materials for medium

gray iron castings. Castings shall be free of serious blowholes, cinder spots and cold shuts.

2. *Cast steel.* Steel castings for building construction shall be made of open hearth steel, and shall be practically free from blowholes. Except as may be otherwise prescribed by rules of the superintendent of buildings, they shall conform to the standard specifications of the American Society for Testing Materials for soft or medium steel castings.

3. *Structural Steel.* All structural steel for buildings shall have an ultimate tensile strength of from 55,000 pounds to 65,000 pounds per square inch. Rivet steel shall have an ultimate strength of from 46,000 to 56,000 pounds per square inch. Except as may be otherwise prescribed by the rules of the superintendent of buildings, steel shall conform to the standard specifications of the American Society for Testing Materials for structural steel for buildings.

§31. Timber. All timbers and wood beams used in any building shall be of good, sound material, free from rot, large and loose knots, shakes or any imperfection whereby the strength may be impaired. 31

Article 3

Working Stresses and Loads

(In Effect March 30, 1915)

§50. General provisions. 1. *Computations.* The dimensions of the several materials and the form of each construction to be used in building shall be computed as required in the various sections of this chapter. 50

2. *Factors of safety.* Where the unit stress of any material is not prescribed in this chapter the relation of allowable unit stress to ultimate strength shall be as 1 to 4 for metal, as 1 to 6 for timber, and as 1 to 10 for natural or artificial stones and brick or stone masonry. But wherever working stresses are prescribed in this chapter, the said working stresses shall be used.

3. *Temporary supports.* Every temporary support placed under any building or structure, or any part thereof, during the erection, finishing, alteration, or repairing of such building or structure, or any part thereof, shall be of sufficient strength to safely carry the load to be placed thereon.

51 §51. **Working stresses.** 1. *Safe carrying capacity.* The safe carrying capacity of the various materials of construction, except in the case of colums, shall be determined by the working stresses in pounds per square inch specified in this section. Unless otherwise indicated, net sectional areas shall be used in determining the safe carrying capacity.

2. *Iron and steel.* (a) In compression:

Rolled steel	16,000
Cast steel	16,000
Cast iron	16,000
Steel pins in bearing	24,000
Steel rivets, shop or power driven, in bearing	24,000
Steel field rivets, hand driven, in bearing	16,000
Steel field bolts, in bearing	12,000

(b) In tension:

Rolled steel	16,000
Cast steel	16,000
Cast iron	3,000

(c) In shear:

Steel web plates	10,000
Steel pins and shop or power driven rivets	12,000
Steel field rivets, hand driven	8,000
Steel field bolts	7,000
Cast iron	3,000

(d) In bending, extreme fibre:

Rolled steel beams and riveted steel beams	16,000
Rolled steel pins, rivets or bolts	20,000
Cast iron, compression side	16,000
Cast iron, tension side	3,000

3. *Timber.* (a) In compression:

Oak	with grain	1,400, across grain	1,000
Yellow pine, longleaf	with grain	1,600, across grain	1,000
Spruce and Douglas fir	with grain	1,200, across grain	800
White pine, shortleaf yellow pine, N. C. pine and fur—	with grain	1,000, across grain	800
Locust	with grain	1,200, across grain	1,000
Hemlock	with grain	800, across grain	800

(b) In tension:

Oak	1,200
Yellow pine, longleaf	1,200
Shortleaf yellow pine	900
Douglas fir	800
Spruce and fir	800
White pine	700
Hemlock	600

(c) In shear:

Oak	with grain	200, across grain	1,000
Yellow pine, longleaf	with grain	150, across grain	1,000

Shortleaf yellow pine, N. C. pine, Douglas fir—		
	with grain	100, across grain 1,000
White pine, spruce and fir	with grain	100, across grain 500
Hemlock	with grain	100, across grain 600
(d) In bending, extreme fibre:		
Oak		1,200
Yellow pine, longleaf		1,600
Douglas fir, white pine and spruce		1,200
Shortleaf yellow pine, N. C. pine		1,000
Hemlock		800
4. *Stone,* in compression:		
Granite		1,000
Greenwich stone		1,200
Gneiss		1,000
Limestone		700
Marble		600
Sandstone		400
Bluestone, North River		2,000
Slate		1,000
5. *Masonry,* in compression:		
Grout, neat Portland cement		1,000
Grout, neat natural cement		500
Concrete, Portland cement, 1 :2 :4		500
Concrete, Portland cement, 1 :2½ :5		400
Concrete, natural cement, 1 :2 :4		210
Concrete, natural cement, 1 :2½ :5		150
Brick work in Portland cement mortar		250
Brick work in natural cement mortar		210
Brick work in lime-cement mortar		160
Brick work in lime mortar		110
Rubble stone work in Portland cement mortar		140
Rubble stone work in natural cement mortar		110
Rubble stone work in lime-cement mortar		100
Ashlar masonry, other than sandstone		600
Sandstone ashlar masonry		300
Hollow building blocks in cement mortar:		
Terra cotta, cells vertical, gross area		100
Terra cotta, cells horizontal, gross area		50
Concrete, cells vertical, gross area		75
Concrete, cells horizontal, gross area		30
When filled with 1 :3 :6 concrete or better		150

§52. **Working stresses for columns.** 1. *General.* In columns or compression members with flat ends, of cast iron, steel or wood, the stresses shall not exceed those specified in this section for the respective ratios of slenderness. For intermediate ratio of slenderness the working stresses shall be proportionate to those given. 52

2. *Unsupported lengths.* Columns and compression members shall not be used having an unsupported length of greater ratios than given in this section.

3. *Eccentrically loaded columns.* Any columns eccentrically loaded shall have the stresses caused by such eccentricity computed and the combined stresses resulting from such eccentricity, at any part of the columns, added to all other stresses at that part, shall in no case exceed the working stresses given in this section. The eccentric load of a column may be considered to be distributed equally over the entire area of that column at the next point below that at which the column is securely braced laterally in the direction of the eccentricity.

4. *Cast iron and steel columns.* The working stresses in pounds per square inch of cross section for cast iron and steel columns shall be, when the length divided by the least radius of gyration equals

120		7,600 for steel
110		8,300 for steel
100		9,000 for steel
90		9,700 for steel
80		10,400 for steel
70	6,200 for cast iron,	11,100 for steel
60	6,600 for cast iron,	11,800 for steel
50	7,000 for cast iron,	12,500 for steel
40	7,400 for cast iron,	13,200 for steel
30	7,800 for cast iron,	13,900 for steel
20	8,200 for cast iron,	14,600 for steel
10	8,600 for cast iron,	15,300 for steel

5. *Wood columns.* The working stresses in pounds per square inch of cross section for wood posts and columns shall be, when the length divided by least side or diameter equals

30	600 for longleaf yellow pine,	390 for spruce
25	700 for longleaf yellow pine,	475 for spruce
20	800 for longleaf yellow pine,	560 for spruce
15	900 for longleaf yellow pine,	645 for spruce
12	960 for longleaf yellow pine,	696 for spruce
10	1,000 for longleaf yellow pine,	730 for spruce

For columns of shortleaf yellow pine, N. C. pine or Douglas fir the working stresses shall not exceed three-fourths of the corresponding values given for longleaf yellow pine; for columns of white pine or fir the working stresses shall be taken the same as for spruce; for columns of white oak the working stresses shall be taken the same as for longleaf yellow pine.

§53. Loads. 1. *Dead load.* The term "dead load" means the weight of walls, partitions, framing, floors, roofs and all permanent construction entering into any building.

2. *Live load.* The term "live load" means all forms of loading other than the weight of the material entering into the construction of the building.

3. *Floor loads.* Every floor, roof, yard, court or sidewalk shall be of sufficient strength in all parts to bear safely any imposed loads, whether permanent or temporary, in addition to the dead loads depending thereon, provided, however, that no floor in any building or extension to an existing building hereafter erected, shall be designed to carry less than the following live loads per square foot of area, uniformly distributed, according as the floor may be intended or used for the purposes indicated.

40 pounds for residence purposes,

100 pounds for places of assembly or public purpose, except that for classrooms of schools or other places of instruction the floor need not be designed for more than 75 pounds, and

120 pounds for any other purpose, except that the floors of offices need not be designed for more than 60 pounds.

The live loads for which any and every floor may be designed shall be clearly shown in the application and on the plans before any permit to erect is issued.

4. *Concentrated loads.* Every steel floor beam in any building hereafter erected used for any business purpose shall be capable of sustaining a live load concentrated at its centre of at least 4,000 pounds.

5. *Moving loads.* Running machinery or other moving loads shall be considered as increasing the live loads in proportion to the degree of vibratory impulse transmitted to the floor.

6. *Roof loads.* Every roof hereafter erected, shall be proportioned to bear safely a live load of 40 pounds per square foot of surface when the pitch of such roof is twenty degress or less with the horizontal, and thirty pounds per square foot measured on a horizontal plane, when the pitch is more than twenty degrees.

7. *Loads on vertical supports.* Every column, post or other vertical support shall be of sufficient strength to bear safely the combined live and dead loads of such portions of each and every floor as depend upon it for support, except that in buildings more than five stories in height the live load on the floor next below the top floor may be assumed at ninety-five per cent. of the allowable live load, on the next lower floor at ninety per cent., and on each succeeding

lower floor at correspondingly decreasing percentages, provided that in no case shall less than fifty per cent. of the allowable live load be assumed.

8. *Sidewalk loads.* For sidewalks between the curb and building lines, the live load shall be taken at 300 pounds per square foot.

9. *Yard and court loads.* For yards and courts inside the building line, the live loads shall be taken at not less than 120 pounds per square foot.

54 §54. **Wind pressure.** 1. *When considered.* All buildings over 150 feet in height and all buildings or parts of buildings in which the height is more than four times the minimum horizontal dimension, shall be designed to resist a horizontal wind pressure of 30 pounds for every square foot of exposed surface measured from the ground to the top of the structure, including roof, allowing for wind in any direction.

2. *Stability.* The overturning moment due to wind pressure shall not exceed 75 per cent. of the moment of stability of the structure, unless the structure is securely anchored to the foundation. Anchors shall be of sufficient strength to safely carry the excess overturning moment, without exceeding the working stresses prescribed in this chapter.

3. *Allowable stresses.* When the stress in any member due to wind does not exceed 50 per cent. of the stress due to live and dead loads, it may be neglected. When such stress exceeds 50 per cent. of the stress due to live and dead loads, the working stresses prescribed in this chapter may be increased by 50 per cent. in designing such member to resist the combined stresses.

55 §55. **Floor capacities.** 1. *Estimate of floor capacity.* In every building now existing or hereafter erected, occupied wholly or in part as a business building, in which heavy materials are kept or stored, or machinery is introduced, the weight that each floor will safely sustain shall be estimated by the owner or occupant, or by a competent person employed by the owner or occupant. Such estimate shall be filed with the superintendent of buildings properly verified by the person making the same in such manner as such superintendent may direct and shall give full information on which the estimate is based. When such estimate is found to be satisfactory and correct, the superintendent of buildings shall approve the same.

If the superintendent of buildings shall have cause to doubt the correctness of said estimate, he is empowered to revise and correct the same and for the purpose of such revision the officers and employees of the bureau of buildings may enter any building and remove so much of any floor or

other portion thereof as may be required to make necessary measurements and examination. Any expense necessarily incurred in removing any floor or other portion of any building for the purpose of making any examination herein provided for shall be paid by the Comptroller, upon the requisition of the superintendent of buildings, out of the fund paid over to him under the provisions of §639 of this chapter. Such expenses shall be a charge against the person or persons by whom or on whose behalf said estimate was made, provided such examination proves the floors of insufficient strength to carry with safety the loads founds upon them when such examination was made; and shall be collected in an action to be brought by the corporation counsel against said person or persons, and the sum so collected shall be paid over to the Comptroller to be deposited in said fund in reimbursement of the amount paid as aforesaid.

2. *Posting floor capacities.* Before any building hereafter erected is occupied, in whole or in part, as a business building, and before any building already erected but not heretofore occupied as a business building, is occupied or used, in whole or in part, for such purpose, the safe live load for each floor as approved by the superintendent of buildings shall be posted in a conspicuous place in the story to which it relates. When the safe live load for any existing floor, ascertained as hereinafter provided, has been approved by the superintendent of buildings, the owner or occupant shall post such approved live load in a conspicuous place or places on each story occupied for any of the purposes indicated in this section.

3. *Loading of floors.* No person shall place, or cause or permit to be placed on any floor of any building any greater load than the approved safe load.

4. *Safes.* No safe shall be placed on a stair landing or in a stair hall, nor shall its weight be carried by any beam which also carries the floor of any landing or stair hall.

Article 4

Classification of Buildings

(In Effect March 30, 1915)

§70. **Occupancy.** 1. *Classes designated.* For the purposes of this chapter all buildings or structures shall be classified, with respect to occupancy and use, as public buildings, **70**

residence buildings and business buildings, as hereinafter specified and defined.

2. *Public buildings.* Public buildings are buildings or parts of buildings in which persons congregate for civic, political, educational, religious or recreational purposes, or in which persons are harbored to receive medical, charitable or other care or treatment, or in which persons are held or detained by reason of public or civic duty, or for correctional purposes, including among others, court houses, schools, colleges, libraries, museums, exhibition buildings, lecture halls, churches, assembly halls, lodge rooms, dance halls, theatres, bath houses, hospitals, asylums, armories, fire houses, police stations, jails and passenger depots.

3. *Residence buildings.* Residence buildings are buildings or parts of buildings in which sleeping accommodations are provided, except such as may for other reasons be classed as public buildings, including amongs others, dwellings, tenement houses, hotels, lodging houses, dormitories, convents, and studios and club houses having sleeping accomodations.

4. *Business buildings.* Business buildings are buildings, or parts of buildings, which are not public buildings or residence buildings, including among others, office buildings, stores, markets, restaurants, warehouses, freight depots, car barns, stables, garages, factories, laboratories, smoke houses, grain elevators and coal pockets.

5. *Doubtful classification.* In case any building is not specifically provided for, or where there is any uncertainty as to its classification, its status shall be fixed by a rule promulgated by the superintendent of buildings.

6. *Mixed occupancy.* In case a building is occupied or used for different purposes in different parts, the provisions of this chapter applying to each class of occupancy shall apply to such parts of the building as come within that class; and if there should be conflicting provisions, the requirements securing the greater safety shall apply.

71 §71. **Construction.** 1. *Classes of construction.* For the purposes of this chapter all buildings or structures shall be classified, with respect to construction, as fireproof, non-fireproof and frame.

2. *Fireproof.* Fireproof buildings or structures are those which are constructed throughout of materials that will resist the action of fire and are constructed as required in Article 17 of this chapter.

3. *Non-fireproof.* Non-fireproof buildings or structures are those which do not conform to the requirements for fireproof buildings or structures, but which are enclosed with walls of approved masonry or reinforced concrete.

4. *Frame.* Frame buildings or structures are those of which the exterior walls or any parts thereof are of wood, or which do not conform to the requirements for fireproof or non-fireproof buildings.

§72. **When buildings are required to be fireproof.** 1. *New buildings.* Every building hereafter erected shall be a fireproof building, as follows: **72**

a. Every public building over 20 feet high, in which persons are harbored to receive medical, charitable or other care or treatment, or in which persons are held or detained under legal restraint;

b. Every other public building over 40 feet in height, or exceeding 5,000 square feet in area;

c. Every residence building, except tenements, over 40 feet in height and having more than 15 sleeping rooms;

d. Every tenement house exceeding six stories or parts of stories as provided in the Tenement House Law;

e. Every residence building having more than 15 sleeping rooms and exceeding 2,500 square feet in area, unless divided by interior partition walls of approved masonry or reinforced concrete into sections of less than 2,500 square feet area;

f. Every other residence building over 75 feet in height;

g. Every business building used as a garage within the fire limits; every garage within the suburban limits exceeding 600 square feet in area or 15 feet in height, or not located as provided in §91 of this chapter; and every garage, outside these restricted areas, over 40 feet in height;

h. Every business building used for hazardous trade as indicated in §§171 and 212 of Chapter 10 of this ordinance;

i. Every building over four stories in height used as a factory as defined in the Labor Law;

j. Every building or structure within the fire limits or the suburban limits used as a grain elevator or a coal pocket;

k. Every business building oved 75 feet in height;

l. Every business building within the fire limits or the suburban limits which exceeds an area of 7,500 square feet when located on an interior lot or when facing on only one street, or 12,000 square feet when facing on two streets, or 15,000 square feet when facing on three or more streets, provided that when any such building is equipped throughout with an approved system of automatic sprinklers, fireproof construction shall be required only when the areas exceed double those herein specified for the respective conditions, and provided also that when any such building is divided by approved interior fire walls, fireproof construction shall be required only when any undivided area exceeds 7,500 square feet. Buildings of greater areas than herein specified for the

respective conditions may, considering location and purpose, be constructed non-fireproof by special permission of the superintendent of buildings, provided they do not exceed two stories in height.

2. *Alterations.* a. By extending. When any building now existing is to be enlarged by extending it on any side so that the enlarged building would exceed the limits of height or area specified in subdivision 1 of this section for a new building, the extension or enlargement shall be constructed fireproof, provided that, in case the existing building is not of fireproof construction, the existing and new portions of the building shall be separated by fire walls.

b. By raising in height. No building now existing shall be raised in height so as to exceed the limits of height specified in subdivision 1 of this section unless it is fireproof.

73 §73. **When buildings may be non-fireproof.** 1. *New buildings.* Except when required by this article to be fireproof, or when permitted by Article 5 or Article 22 of this chapter to be frame, any building hereafter erected may be non-fireproof.

2. *Alterations.* Except when required by this article to be fireproof, or when permitted by Article 5 or Article 30 of this chapter to be frame, any building which shall hereafter be enlarged in any manner may be non-fireproof.

Article 5

Restricted Areas

(In Effect March 30, 1915)

90 §90. **Fire limits.** Except as otherwise specifically provided in this chapter, or as the same may be amended from time to time, no frame, wood or other combustible structure shall be hereafter built in the city within the following limits hereinafter referred to as the fire limits and no person shall maintain, occupy or use any such structure erected in violation of any provision of this ordinance:

1. *In the borough of Manhattan:* Beginning at a point on the North river at the Battery, and running thence northerly along the pierhead line to a point 100 feet north of the northerly side of Dyckman street; thence running

easterly 100 feet north of and parallel to the northerly side of Dyckman street to a point 100 feet west of the westerly side of Seaman avenue; thence running northerly 100 feet west of and parallel to the westerly side of Seaman avenue to a point 100 feet south of the southerly side of W. 215 st.; thence running easterly 100 feet south of and parallel to the southerly side of W. 215th st., to a point 100 feet west of the westerly side of Broadway; thence running northerly 100 feet west of and parallel to the westerly side of Broadway to the bulkhead line of the Harlem ship canal; thence easterly and southerly along the bulkhead line of the Harlem ship canal and the Harlem river to the Bronx kills; thence easterly along the bulkhead line of the Bronx kills to the East river; thence southerly along the East River to the east of Randalls, Wards and Blackwells islands and along the pierhead line of the East river to the North river, at the place of beginning.

2. *In the borough of The Bronx:* a. Beginning at a point on the eastern bulkhead line of the Harlem river at the intersection with the centre line of Washington bridge, thence running easterly along the centre line of Washington bridge to Aqueduct ave., thence running northerly along the centre line of Aqueduct ave. to Featherbed lane, thence running northeasterly along the centre line of Featherbed lane to Macombs road, thence running southerly along the centre line of Macombs road to 174th st., thence running easterly along the centre line of 174th st. to a point 100 feet west of the westerly side of Jerome ave., thence running northerly 100 feet west of and parallel to the westerly side of Jerome ave. to Woodlawn road, thence running southeasterly along the centre line of Woodlawn road to a point 100 feet east of the easterly side of Jerome ave., thence running southerly 100 feet east of and parallel to the easterly side of Jerome ave. to E. 174th st., thence running easterly along the centre line of E. 174th st. to a point 100 feet west of the westerly side of Webster ave., thence running northerly 100 feet west of and parallel to the westerly side of Webster ave. to a point 100 feet north of the northerly side of Gun Hill road, thence running easterly 100 feet north of and parallel to the northerly side of Gun Hill road to a point 100 feet west of the westerly side of White Plains road, thence running southerly across Gun Hill road to a point 100 feet south of the southerly side of Gun Hill road, thence running westerly 100 feet south of and parallel to the southerly side of Gun Hill road to the westerly line of the right of way of the New York and Harlem railroad, thence running southerly along the westerly line of the right of way of the New York and Harlem railroad to a point 100 feet

north of the northerly side of Fordham road, thence running easterly 100 feet north of and parallel to the northerly side of Fordham road to the westerly boundary of Bronx park, thence running southerly along the westerly boundary and easterly along the southerly boundary of Bronx park to the Bronx river, thence running southerly along the centre line of the Bronx river to a point 100 feet north of the northerly side of Walker ave., thence running easterly 100 feet north of and parallel to the northerly side of Walker ave. to a point 100 feet west of the westerly side of Morris Park ave., thence running northeasterly 100 feet northwest of and parallel to the northwesterly side of Morris Park ave. to a point 100 feet west of the westerly side of White Plains road, thence running northerly 100 feet west of and parallel to the westerly side of White Plains road to the northerly boundary line of the city, thence running easterly along said boundary line to a point 100 feet east of the easterly side of White Plains road, thence running southerly 100 feet east of and parallel to the easterly side of White Plains road to a point 100 feet south of the southerly side of Morris Park ave., thence running southwesterly 100 feet southeast of and parallel to the southeasterly side of Morris Park ave. to a point 100 feet south of the southerly side of Walker ave., thence running westerly 100 feet south of and parallel to the southerly side of Walker ave. to the Bronx river, thence running southerly along the centre line of the Bronx river to a point 100 feet north of the northerly side of Westchester ave., thence running easterly 100 feet north of and parallel to the northerly side of Westchester ave. to the Eastern boulevard, thence running southerly across Westchester ave. to a point 100 feet south of the southerly side of Westchester ave., thence running westerly 100 feet south of and parallel to the southerly side of Westchester ave. to the Bronx river, thence running southerly along the centre line of the Bronx river to the East river, thence running southeasterly along the East river, northwesterly along the Bronx kills and northerly along the Harlem river to the point of beginning;

b. Also, beginning at a point on the boundary line between the boroughs of The Bronx and Manhattan in the bed of the old Spuyten Duyvil creek 100 feet west of the westerly side of Broadway, thence running northerly 100 feet west of and parallel to the westerly side of Broadway to the city line, thence running easterly along the city line to the east side of Broadway, thence running southerly along the easterly side of Broadway to the northerly side of Van Cortlandt park south, thence running easterly to a point 100 feet east of the easterly side of Broadway, thence

running southerly 100 feet east of and parallel to the easterly side of Broadway to the boundary line between the boroughs of The Bronx and Manhattan, thence running westerly along said boundary line to the point of beginning.

3. *In the borough of Brooklyn:* a. Beginning at the junction of Newtown creek with the East river, thence running along Newtown creek and the borough line between Brooklyn and Queens to Chauncey st., thence running southwesterly along the centre line of Chauncey st. to Central ave., thence running southeasterly along the centre line of Central ave. to the boundary line of Evergreen cemetery, thence running southerly along the boundary line of Evergreen cemetery to Highland boulevard, thence running northeasterly along the centre line of Highland boulevard to Highland park, thence running southerly along the boundary line of Highland park to Jamaica ave., thence running easterly along the northerly side of Jamaica ave. to the borough line between Brooklyn and Queens, thence running southerly along said borough line to a point 100 feet south of the southerly side of Jamaica ave., thence running westerly 100 feet south of and parallel to the southerly side of Jamaica ave. to a point 100 feet east of the easterly side of Norwood ave., thence running southerly 100 feet east of and parallel to the easterly side of Norwood ave. to Atlantic ave., thence running easterly along the centre line of Atlantic ave. to a point 100 feet east of the easterly side of Milford st., thence running southerly 100 feet east of and parallel to the easterly side of Milford st. to a point 100 feet south of the southerly side of New Lots ave., thence running westerly 100 feet south of and parallel to the southerly side of New Lots ave. to a point 100 feet south of the southerly side of Riverdale ave., thence running westerly 100 feet south of and parallel to the southerly side of Riverdale ave. to a point 100 feet west of the westerly side of E. 98th st., thence running northwesterly 100 feet west of and parallel to the westerly side of E. 98th st. to a point 100 feet south of the southerly side of Clarkson ave., thence running westerly 100 feet south of and parallel to the southerly side of Clarkson ave. across Remsen ave. and continuing 100 feet south of and parallel to the southerly side of Clarkson ave. to a point 100 feet east of the easterly side of Flatbush ave., thence running southerly 100 feet east of and parallel to the easterly side of Flatbush ave. to a point opposite the junction of Kings highway with Flatbush ave., thence running westerly across Flatbush ave., to a point 100 feet west of the westerly side of Flatbush ave., thence running northerly 100 feet west of and parallel to the westerly side of Flatbush ave. to a point 100 feet south of the southerly side

of Church ave., thence running westerly 100 feet south of and parallel to the southerly side of Church ave. to a point 100 feet southeast of the southeasterly side of 14th ave., thence running southwesterly 100 feet southeast of and parallel to the southeasterly side of 14th ave. to a point 100 feet southwest of the southwesterly side of 60th st., thence running northwesterly 100 feet southwest of and parallel to the southwest side of 60th st. to New York bay, thence running northerly along the pierhead line of New York bay, Gowanus bay, Buttermilk channel and the East river to the point of beginning;

b. Beginning at a point at the intersection of the Atlantic Ocean and W. 5th st., thence running northerly along the centre line of W. 5th st. to a point 100 feet north of the northerly side of Surf ave., thence running westerly 100 feet north of and parallel to the northerly side of Surf ave. to W. 8th st., thence running westerly along the southerly side of the right of way of the Norton's Point railroad to W. 37th st., provided that at no point along said right of way shall these limits be taken at a distance less than 100 feet north of the northerly side of Surf ave., thence running southerly along the centre line of W. 37th st. to the Atlantic Ocean, thence running easterly along the shore line to the point of beginning;

4. *In the borough of Queens:* a. Beginning at a point in the bulkhead line of the East River at its intersection with the centre line of Winthrop ave., thence running southeasterly along the centre line of Winthrop ave. to a point 100 feet southeast of the southeasterly side of Steinway ave., thence running southwesterly 100 feet southeast of and parallel to the southeasterly side of Steinway ave. to a point 100 feet north of the northerly side of Astoria ave., thence running easterly 100 feet north of and parallel to the northerly side of Astoria ave. to the Old Bowery bay road, thence running southerly along the centre line of the Old Bowery bay road to Woodside ave., thence running southerly along the centre line of Woodside ave. to Middleburg ave., thence running westerly along the centre line of Middleburg ave. to Dickson st., thence running southerly along the centre line of Dickson st. to a point 100 feet south of the southerly side of Greenpoint ave., thence running westerly 100 feet south of and parallel to the southerly side of Greenpoint ave. to Borden ave., thence running easterly along the centre line of Borden ave. to Laurel Hill boulevard, thence southwesterly along the centre line of Laurel Hill boulevard to Meeker ave., thence running southerly along the centre line of Meeker ave. to Newtown Creek, thence along Newtown creek to the East river, thence running northerly along the

bulkhead line of the East river to the place of beginning; (Paragraph a, as amended November 9, 1915).

b. Beginning at a point on the borough line between Queens and Brooklyn intersected by a line distant 100 feet north of and parallel to the northerly side of Metropolitan ave., thence running easterly 100 feet north of and parallel to the northerly side of Metropolitan ave. to a point 100 feet east of the easterly side of Fresh Pond road, thence running southerly 100 feet east of and parallel to the easterly side of Fresh Pond road to Myrtle ave., thence running southerly along the Long Island railroad to the borough line between Queens and Brooklyn, thence running northwesterly along said borough line to the point of beginning;

c. Beginning at a point on the borough line between Queens and Brooklyn 100 feet north of the northerly side of Jamaica ave., thence running easterly 100 feet north of and parallel to the northerly side of Jamaica ave., to Brenton ave., thence running southerly across Jamaica ave. to a point 100 feet south of the southerly side thereof, thence running westerly 100 feet south of and parallel to the southerly side of Jamaica ave. to a point 100 feet east of the easterly side of Roseville ave., thence running southerly 100 feet east of and parallel to the easterly side of Roseville ave. to Mandsley st., thence running westerly across Roseville ave. to a point 100 feet west of the westerly side thereof, thence running northerly 100 feet west of and parallel to the westerly side of Roseville ave. to a point 100 feet south of the southerly side of Jamaica ave., thence running westerly 100 feet south of and parallel to the southerly side of Jamaica ave. to the boundary line between the boroughs of Queens and Brooklyn, thence running northerly along said boundary line to the place of beginning;

d. Beginning at a point on the centre line of Madison street, Flushing, 100 feet west of the westerly side of Main street, thence running northerly 100 feet west of and parallel to the westerly side of Main street to Jackson ave., thence running easterly along the centre line of Jackson ave. to a point 100 feet east of the easterly side of Main street, thence running southerly 100 feet east of and parallel to the easterly side of Main street to Madison street, thence running westerly along the centre line of Madison street to the point of beginning.

§91. **Suburban limits.** Except as otherwise specifically provided in this chapter, no frame or wood structure shall be built hereafter within the following areas or limits hereinafter referred to as "Suburban Limits", and it shall be unlawful to maintain, occupy or use any such structure erected in violation of any of the provisions of this

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ordinance, provided, however, that nothing herein contained shall prevent the erection, maintenance or occupancy of any frame building to be used exclusively for residence purposes with not more than 15 sleeping rooms and covering not more than 85 per cent. of the width of the lot or plot on which it is erected, and maintaining on at least one side an open space or open spaces as may be necessary to preserve such restriction, or of any one-story frame stable or garage not exceeding 600 square feet in area or 15 feet in height and erected on the same plot with a one- or two-family building and maintained on all sides at least 4 feet from any lot line.

1. *In the borough of Manhattan,* all that portion of the borough not included in the fire limits.

2. *In the borough of The Bronx,* all that portion of the borough lying between the fire limits and the following boundaries:

Beginning at the Hudson river and running easterly along the boundary line between the borough of The Bronx and Westchester county to a point 100 feet east of the easterly side of Barnes avenue, thence southerly 100 feet east of and parallel to the easterly side of Barnes avenue to a point 100 feet east of the easterly side of Bronxwood avenue, continuing southerly 100 feet east of and parallel to the easterly side of Bronxwood avenue to a point 100 feet south of the southerly side of Adee avenue, thence easterly 100 feet south of and parallel to the southerly side of Adee avenue to a point 100 feet east of the easterly line of Laconia avenue, thence southerly 100 feet east of and parallel to the easterly side of Laconia avenue to a point 100 feet south of the southerly side of Waring avenue, thence easterly 100 feet south of and parallel to the southerly side of Waring avenue to the centre of Givan's basin, thence southeasterly and easterly along the centre line of Givan's basin to Eastchester creek, thence southeasterly and southerly through Eastchester creek and Eastchester bay to a line 100 feet south of and parallel with the southerly side of Waterbury avenue, thence westerly along a line running 100 feet south of and parallel to the southerly side of Waterbury avenue to Westchester creek, thence southerly along the centre line of Westchester creek to a point 100 feet south of the southerly side of Lafayette avenue, thence westerly 100 feet south of and parallel to the southerly side of Lafayette avenue to a point 100 feet west of the westerly side of White Plains road, thence northerly 100 feet west of and parallel to the westerly side of White Plains road to a point 100 feet south of the southerly side of Watson avenue,

thence westerly 100 feet south of and parallel to the southerly side of Watson avenue to the Bronx river.

3. *In the borough of Brooklyn,* all that portion of the borough lying between the fire limits and the following boundaries: Beginning at the Atlantic Ocean on a line 100 feet east of and parallel to the easterly side of Ocean parkway, running thence northerly 100 feet east of and parallel to the easterly side of Ocean Parkway, to a point 100 feet south of the southerly side of Neptune avenue; thence easterly 100 feet south of and parallel to the southerly side of Neptune avenue, to a point 100 feet east of the easterly side of Coney Island avenue; thence southerly 100 feet east of and parallel to the easterly side of Coney Island avenue, to the Atlantic Ocean; thence easterly along the line up to the Atlantic Ocean to a point 100 feet east of the easterly side of Thornhill street (Manhattan Beach Estates), running thence northerly 100 feet east of and parellel to the easterly side of Thornhill street, continuing across Sheepshead bay till it intersects with a line drawn 100 feet north of and parallel to the northerly side of Emmons avenue, thence westerly 100 feet north of and parallel to the northerly side of Emmons avenue to a point 100 feet east of the easterly side of Batchelder street, thence northerly 100 feet east of and parallel to the easterly side of Batchelder street to a point 100 feet north of the northerly side of Avenue Z, thence westerly 100 feet north of and parallel to the northerly side of Avenue Z to a point 100 feet east of the easterly side of Ocean avenue; thence northerly 100 feet east of and parallel to the easterly side of Ocean avenue to a point 100 feet south of the southerly side of Avenue U, thence easterly 100 feet south of and parallel to the southerly side of Avenue U to a point 100 feet east of the easterly side of Nostrand avenue, thence northerly 100 feet east of and parallel to the easterly side of Nostrand avenue to a point 100 feet south of the southerly side of Avenue N, thence easterly 100 feet south of and parallel to the southerly side of Avenue N, to a point 100 feet west of the westerly side of East 35th street, thence southeasterly 100 feet southwest of and parallel to the southwesterly side of East 35th street to a point 100 feet southeast of the southeasterly side of Flatlands avenue, thence northeasterly 100 feet southeast of and parallel to the southeasterly side of Flatlands avenue to a point 100 feet east of the easterly side of Schenectady avenue, thence northerly 100 feet east of and parallel to the easterly side of Schenectady avenue to a point 100 feet south of the southerly side of Clarendon road, thence easterly 100 feet south of and parallel to the southerly side of Clarendon road

to a point 100 feet southeast of the southeasterly side of Ditmas avenue, thence northeasterly 100 feet southeast of and parallel to the southeasterly side of Ditmas avenue to a point 100 feet northeast of the northeasterly side of East 98th street, thence northwesterly 100 feet northeast of and parallel to the northeasterly side of East 98th street to a point 100 feet south of the southerly side of Vienna avenue, thence easterly 100 feet south of and parallel to the southerly side of Vienna avenue to a point 100 feet east of the easterly side of Fountain avenue, thence northerly 100 feet east of and parallel to the easterly side of Fountain avenue to a point 100 feet south of the southerly side of Sutter avenue, thence easterly 100 feet south of and parallel to the southerly side of Sutter avenue to the boundary line of Queens borough.

92 §92. **Enlarging buildings.** Except as otherwise specifically provided in this chapter, or as the same shall be amended from time to time, no existing frame, wood or other combustible structure shall be enlarged within the fire limits, or suburban limits, except in conformity with the provisions of this chapter with respect to new structures.

93 §93. **Repair of damaged buildings.** 1. *When prohibited.* Within the fire limits any existing frame, wood, or other combustible structures which, in the judgment of the superintendent of buildings of the borough, may be damaged from any cause whatsoever to an amount greater than one-half of the value thereof exclusive of the foundations or may be in need of structural repairs to an amount greater than one-half of its value exclusive of the foundations, shall not be repaired or rebuilt, but shall be taken down.

2. *Surveys.* In case the owner or owners of the structure which may be damaged or in need of repairs shall be dissatisfied with the decision of the superintendent of buildings as to the extent of such damage or need of repairs, then the amount or extent of such damage or required repairs shall be determined by competent surveyors, one appointed by the superintendent of buildings, one by the owner or owners of the structure and, in case these two do not agree, one selected by them jointly. The report of the surveyors shall be reduced to writing and, when signed by any two of them, shall be conclusive. No building the subject of survey shall be in any manner repaired, altered or rebuilt until after the decision of the surveyors shall have been rendered.

94 §94. **Moving buildings.** No frame, wood or other combustible structure shall be moved from without to within the fire limits.

95 §95. **Buildings in process of construction.** Nothing herein contained shall prevent the erection or completion of a

frame structure for which a permit has been lawfully issued at the time this ordinance shall take effect within such portions of the fire limits as were not heretofore included within the fire limits of the city; provided the work thereon shall be diligently prosecuted so that the structure shall be completed within 15 months after the passage of this ordinance.

In case any such structure shall not be completed within the said period, the holder of the permit therefor shall be deemed to have forfeited all rights and privileges thereunder and the uncompleted building or structure shall be taken down and removed within 60 days after the date of the forfeiture of such permit.

§96. **Frame buildings permitted.** If any block situated within the fire limits has 90 per cent. of the buildings erected thereon constructed of frame, any vacant lot situated therein may have a frame building placed or constructed thereon, provided the same be not more than 2 stories and basement in height and is to be used for residence purposes only. 96

Article 6

Height, Size and Arrangement
(Not yet enacted)

Section 110. 110

Article 7

Light and Ventilation
(In Effect March 14, 1916)

Section 130. Rooms in residence buildings.
131. Rooms in business buildings.
132. Rooms in public buildings.
133. Bathrooms and water-closet compartments.
134. Windows.
135. Courts.
136. Buildings on same plot.
137. Alterations.

§130. **Rooms in residence buildings.** 1. *Windows required.* Except as otherwise provided in this article or by any other law, every living room in every residence building hereafter erected shall have one or more windows opening directly upon a street or other open public space, or upon a court located upon the same lot or plot as the building and conforming to the requirements of this article for courts, provided that the width of such street or open 130

public space is not less than required by this article for courts.

2. *Size of rooms.* Every such room shall be not less than six feet wide in any part, and shall contain not less than sixty square feet of clear floor area, and the clear height for this minimum floor area shall be not less than eight feet.

3. *Alcove rooms.* Nothing in this section shall prohibit, in residence buildings occupied by not more than two families, rooms without windows as prescribed by subdivision 1 of this section, provided that every such room opens without obstruction directly into another room which has one or more windows having an aggregate area between stop beads of not less than twenty-four square feet and opening to the outer air as prescribed in subdivision 1 of this section, and that the opening between such rooms is not less than sixty square feet in area.

131 §131. **Rooms in business buildings.** Except as otherwise provided in this article, every room in every business building hereafter erected, other than rooms specifically provided for by the State Labor Law, shall, unless ventilated by windows opening directly upon a street or other open public space, or upon a court located on the same lot or plot as the building and conforming to the requirements of this article for courts, be provided with approved means of ventilation consisting of transoms or similar devices opening into rooms ventilated directly to the outer air or of other methods capable of maintaining a carbon dioxide content of the air of not more than one part in one thousand, provided that this requirement shall not apply to breweries or charging rooms, or other rooms where high quantities of carbon dioxide are an unavoidable concomitant of the use to which the room is put, or to rooms used exclusively for storage purposes, and provided further that the requirements of this section shall not apply to rooms in which the unoccupied space exceeds five hundred cubic feet for each occupant.

132 §132. **Rooms in public buildings.** Except as otherwise provided in this article or by any other law or ordinance, every room in every public building hereafter erected shall be equipped with some approved system of positive ventilation which, during occupancy, will provide not less than two cubic feet of fresh, uncontaminated air per minute for each square foot of floor surface, unless the unoccupied space of such rooms exceeds one thousand cubic feet for each occupant and windows are provided opening directly upon a street or other open public space, or upon a court located on the same lot or plot as the building and conforming to the requirements of this article for courts.

§133. **Bathrooms and water-closet compartments.** Every bathroom, toilet room or other room containing one or more water-closets or urinals, hereafter placed in any building, shall be ventilated in at least one of the following ways: 133

a—by a window, opening to the outer air as prescribed in subdivision 1 of §130 and having, between stop beads, an area of not less than ten per cent. of the floor area nor less than three square feet in any case and a width of not less than one foot;

b—by a window of the size specified in a, opening on a vent shaft which extends to and through the roof or into a court conforming to the requirements of this article for courts and which has a cross-sectional area of not less than one-fifth of a square foot for every foot of height but not less than nine square feet in any case, and, unless open to the outer air at the top, a net area of louvre openings in the skylight equal to the maximum required shaft area;

c—by an individual vent flue or duct extending independently of any other flue or duct, to and above the roof and having a cross-sectional area of not less than one square foot for two or less water-closets or urinal fixtures and one-third of a square foot additional for each additional water-closet or urinal fixture;

d—by a skylight in the ceiling, having a glazed surface of not less than three square feet and arranged so as to provide ventilating openings of not less than three square feet to the outer air above the roof of the building or into a court conforming to the requirements of this article for courts, for two or less water-closets or urinal fixtures and two square feet additional for each additional water-closet or urinal fixture; or

e—by some approved system of mechanical exhaust ventilation of sufficient capacity to provide not less than four changes of air per hour.

§134. **Windows.** All windows, except windows provided for in §133 of this article, placed in any room of a residence building hereafter erected for the purpose of complying with the requirements of this article, shall have an aggregate area between stop beads of not less than one-tenth of the floor area of the room served thereby. Such windows shall be so arranged that when fully opened the total open space shall be not less than fifty per cent. of the total required window space. 134

§135. **Courts.** In every building hereafter erected every court provided under the provisions of this article for the lighting and ventilation of any room shall have a width at every point of not less than one inch for every foot that 135

such point is distant from the lowest part of such court, but not less than four feet in any case. Every such court shall be open and unobstructed for the required widths from its lowest point to the sky, except for the ordinary projections of window sills, belt courses and similar ornamental projections to the extent of not more than four inches. When a court is located along a side of a lot or plot the lot line shall be deemed an enclosure of such court, except that when a court opens on a street or open public space, such street or open public space may be considered as part of that court.

136 §136. **Buildings on the same plot.** If more than one building is hereafter placed on any lot or plot, or, if any building is placed on the same lot or plot with an existing building, the several buildings, may, for the purposes of this article, be considered as a single building. Any structure, whether independent or attached to a building, shall for the purpose of this article, be deemed a building or part of a building.

137 §137. **Alterations.** No building shall hereafter be altered so as to reduce either the size of any room or the amount of window space, to less than that required for buidings hereafter erected, or so as to create any additional room or rooms unless such additional room is made to conform to the requirements for rooms in buildings hereafter erected, except that such rooms may be of the same height as existing rooms in the same story. No building shall hereafter be enlarged nor shall the lot or plot on which it is located be diminished so that the dimensions of any court required for light or ventilation as in this article provided, shall be less than prescribed for buildings hereafter erected.

Article 8

Exit Facilities

(In Effect March 14, 1916)

§150. **Definitions.** For the purpose of this article: **150**

a—a floor area is any floor space enclosed on all sides by either the exterior walls, fire walls, or fire partitions;

b—a stair exit is a direct connection of any floor area to a stairway constructed in accordance with the requirements of this article for required stairs;

c—a horizontal exit is the connection of any two floor areas, whether in the same building or not, by means of a vestibule, or by an open air balcony or bridge, or through a fire partition or fire wall;

d—the term "sprinklered" means equipped with an approved system of automatic sprinklers throughout the building, and the term "unsprinklered" means not so equipped.

§151. **Application of article.** Unless otherwise specifically stated in this article, the provisions thereof shall apply to buildings hereafter erected, except tenement houses coming under the provisions of the Tenement House Law, factories coming under the provisions of the Labor Law, motion picture theatres coming under the provisions of article 24 of this chapter, theatres and other places of amusement coming under the provisions of article 25 of this chapter, and residence buildings occupied exclusively by one or two families or having not more than fifteen sleeping rooms. **151**

§152. **Exits.** 1. *Kind.* Every building hereafter erected shall have one or more exits as required in this section, consisting of interior or exterior stairs, fire towers, or horizontal exits, constructed and arranged as specified in this article, with the necessary hallways and doorways. **152**

2. *Number of occupants.* For the purposes of this article, when the number of persons to be accommodated by the exits is not stated in the application for a permit to construct, such number of persons within any floor area shall be taken, according to the use of such floor area, as one person.

a—for every ten square feet in dance halls, lodge rooms and places of assembly;

b—for every fifteen square feet in court rooms, restaurants and classrooms in schools and colleges;

c—for every twenty-five square feet in stores, markets, lodging houses and reading rooms;

d—for every thirty-two square feet in workrooms;

e—for every fifty square feet in offices and show rooms;

f—for every one hundred square feet in hospitals, hotels, asylums, furnished room houses, studios and other residence buildings;

g—for every one hundred and fifty square feet in warehouses and garages.

It shall be unlawful to occupy any floor area by a greater number of persons than that for which exits have been provided in accordance with this article.

3. *Number.* a. From rooms. Every room having an occupancy of more than seventy-five persons shall have at least two doorways, remote from each other, leading to an exit or exits.

b. From ground floor. Every floor area having direct exit by doorways or hallways to a street and having an occupancy of more than seventy-five persons, shall have at least two means of exit.

c. From floor areas. Every other floor area above or below the ground floor shall have at least one interior stairway or fire tower connected thereto. Every such floor area shall have at least one additional exit when it exceeds two thousand five hundred square feet in area.

d. Fire towers required. In business buildings exceeding eighty-five feet in height, at least one stairway shall be a fire tower, provided that in sprinklered buildings in which two or more stairways are required under the provisions of this article, such fire tower shall not be required unless the building exceeds one hundred and twenty-five feet in height.

4. *Location.* Exits shall be so located that no point in any floor area served by them shall be more than one hundred feet distant along the line of travel from an exit, except that when any floor area is subdivided into smaller areas, such as rooms in hotels and office buildings, the distance from the door of any such room, along an unobstructed hallway, to an exit, shall be not more than one hundred and twenty-five feet. Where more than one exit is required to any floor area, the exits shall be placed remote from each other.

5. *Stairway exits.* Every required stairway shall lead to a street. At least one stairway shall continue to the roof, and when there are more than two stairways, at least two shall continue to the roof.

6. *Engineers' ladders.* Every building, including tenement houses, factories, theatres and motion picture theatres, in which high pressure steam boilers are placed below the curb level shall have stationary iron ladders or stairs from such story leading directly to a manhole through the sidewalk or other outside exit, unless exit is provided by an enclosed stairs or a horizontal exit.

153 §153. **Interior stairs.** 1. *Construction.* a. Strength. All stairs, platforms, landings and stair halls shall be of sufficient strength to safely sustain a live load of not less than one hundred pounds per square foot.

b. Materials. All stairs and stairways serving an exit shall be constructed of incumbustible material throughout, except in frame and non-fireproof buildings not exceeding forty feet in height and occupied by not more than fifty persons above the first story, and except when the stairs are enclosed in fireproof partitions, in frame and non-fireproof buildings not exceeding fifty feet in height.

c. Support for treads and landings. When treads or landings are of slate, marble, stone or composition, they shall be supported for their entire length and width by a solid steel plate at least one-eighth of an inch thick, securely fastened. When stairs are of fireproof construction, the treads and landings may be solidly supported for their entire length and width by the materials of which such stairs are constructed. The treads and landings shall be constructed and maintained in such manner as to prevent persons from slipping thereon.

2. *When to be enclosed.* a. Fireproof enclosures. In buildings exceeding forty feet in height or occupied by more than fifty persons above the first story, interior required stairways shall be enclosed with fireproof partitions or walls of approved masonry.

b. Non-fireproof enclosures. In buildings not exceeding forty feet in height and occupied by not more than fifty persons above the first story, interior required stairways which are not enclosed in fireproof partitions or wall of approved masonry shall be enclosed in partitions of wood studs firestopped at every story with incombustible material, and wire-lathed or covered with approved plaster boards on both sides, and in each case plastered with at least one-half of an inch of mortar on all exposed surfaces, or of other approved equally slow-burning material and construction.

c. Stairs of ornamental character. Nothing in this section shall require the enclosure of the flight of a required stairs, when ornamental in character, from the main entrance floor to the floor next above, provided that such stairs are not the only required stairs, that all other required stairs in the same story are enclosed as in this section prescribed, and that some other required stairs is accessible from the upper part of the stairs in question.

d. Open stair wells. Except as in this section otherwise provided, not more than two stories in any building shall be connected by an open well or unenclosed stairway.

e. Openings in enclosures. No openings shall be permitted in the stair enclosures required by this section, other than doorways, and such windows as are necessary for proper lighting. The doorways shall be equipped with approved

self-closing fire doors, except that in non-fireproof enclosures substantial self-closing hardwood, metal or metal covered doors may be used. Windows, opening on the interior of the building, shall be stationary fire windows.

3. *Width.* No stair or stairway required by this article as an exit shall have an unobstructed width of less than forty-four inches throughout its length, except that hand-rails may project not more than three and one-half inches into such width. The aggregate width of stairs in any story of the building shall be such that the stairs or the stairways may accommodate at one time the total number of persons ordinarily occupying or permitted to occupy the largest floor area served by such stairs or stairways above the flight or flights of stairs under construction, on the basis of one person for each full twenty-two inches of stair width and one and one-half treads on the stairs, and one person for each three and one-half square feet of floor area on the landings and halls within the stairway, provided that the number of persons to be accommodated as herein provided may be assumed at one-half of such total number of persons ordinarily occupying or permitted to occupy any floor area when the building is sprinklered and at one-third of such total number when a horizontal exit is provided in accordance with this article, and at one-fourth of such total number when the building is sprinklered and a horizontal exit is provided.

4. *Treads and risers.* Except where winders are permitted the treads and risers of stairs shall be so proportioned that the product of the tread, exclusive of nosing, and the riser, in inches, shall be not less than seventy nor more than seventy-five, but risers shall not exceed seven and three quarter inches in height, and treads, exclusive of nosing, shall be not less than nine and one-half inches wide. Treads other than winding treads, and risers, shall be of uniform width and height in any one flight. The use of winders is prohibited, except for stairs of an ornamental character having a width of not less than five feet. The treads of winders, exclusive of the nosings, shall have a width of not less than seven inches at any point nor more than ten inches average width.

5. *Landings.* No flight of stairs shall have a vertical rise of more than twelve feet between floors or landings, provided that in stairs serving as an exit from places of assembly such vertical rise shall not exceed eight feet. The distance between risers on landings in straight runs of stairs shall be not less than forty-four inches.

6. *Hand rails.* Stairs shall have walls or well secured balustrades or guards on both sides, and shall have handrails

on both sides. When the required width of a flight of stairs exceeds eighty-eight inches, an intermediate hand-rail, continuous between landings, substantially supported and terminating at the upper end in newels or standards at least six feet high, shall be provided.

7. *Space under stairs.* The space under any stairs built in whole or in part of combustible materials shall be left entirely open and kept clear and free from encumbrance.

§154. **Exterior stairways.** Required stairs which may be permitted on the outside of a building shall be constructed of incombustible materials and shall conform in other respects, except as to enclosure, to the requirements of this article for interior stairs. Exterior stairs shall be connected to each story which they serve by means of self-closing fire doors. Doors and windows opening on such stairs shall be protected by approved self-closing fire doors or automatic fire windows. Metal mesh or other rigid guards at least six feet high shall be provided on each unenclosed side of such stairways throughout. **154**

§155. **Fire towers.** Interior stairways constructed and arranged as follows shall be known as fire towers. The enclosing walls shall be of brick or reinforced concrete not less than eight inches thick, and without openings, except for doors or windows opening on a street, or on a yard or court not less than one hundred square feet in area. Access to the stairway shall be provided at each story served by a fire tower through outside balconies or fireproof vestibules having solid floors or incombustible materials and provided with substantial railings. Such balconies or vestibules shall be level with the floors of the building and platforms of the stairs connected by them, and shall be separated therefrom by self-closing fire doors. The clear width of such connecting balconies and vestibules shall be not less than that required for a hallway. The stairs in fire towers shall comply in all respects with the requirements of this article relating to interior stairs. **155**

§156. **Horizontal exits.** No horizontal exit shall be deemed satisfactory under this article unless the floor area on either side of such horizontal exit is sufficient to hold the joint occupancy of both floor areas, allowing not less than three and one-half square feet of clear floor space per person, and at least one interior stairway or fire tower conforming to the requirements of this article is provided on each side of such horizontal exit. When vestibules or open air balconies are used they shall conform to the requirements for vestibules or open air balconies of fire towers. When bridges are used they shall be constructed of incombustible material. All doorways or windows opening on such vestibules, **156**

balconies or bridges shall be equipped with self-closing fire doors or automatic fire windows. Where there is a difference in level between the connected floor areas, gradients shall be provided of not more than one foot in ten feet.

157 §157. Hallways. When serving as an exit from or in connection with one or more stairways, the clear width of any hallway or passageway shall be not less than the aggregate required clear width of all stairs leading to it. The clear width of every hallway or passageway leading to an exit shall be not less than forty-four inches for the first fifty persons to be accommodated thereby, and six inches additional for each additional fifty persons or fraction thereof; when the number of persons to be accommodated thereby is less than fifty, the clear width of such hallway or passageway shall be not less than thirty-six inches.

158 §158. **Doorways.** 1. *Width.* The aggregate clear width of doorways serving as an exit from any room or floor area to a hallway, stairs or other means of exit, shall be not less than thirty-six inches for the first fifty persons to be accommodated thereby, and six inches additional for each additional fifty persons or fraction thereof. The aggregate clear width of doorways serving as an exit from any stairway, hallway or passageway, shall be not less than the required width for such stairway, hallway or passageway. No single exit doorway shall have a clear width of less than thirty inches, provided that, when the total number of persons to be accommodated exceeds fifty, the clear width shall be not less than thirty-six inches.

2. *Hanging of doors.* The doors of any doorway required by this section shall be so hung and arranged that when opened they shall not in any way obstruct the required width of hallway, stairs, or other means of exit and, in the case of doorways leading directly to a street, shall not, in any position, project more than eighteen inches beyond the building line. Doorways serving as exits to a street from required stairways of any building, or to a yard, court or open passageway communicating with a street, shall have the doors, including the doors of vestibules, so hung as to swing outwards when opening; but this requirement shall not be construed to prohibit the use of doors swinging both inwards and outwards, nor of sliding doors in stables and garages, and in the shipping and receiving rooms of business buildings.

3. *Door fastenings.* The fastening on any exit door within the scope of this section shall be such that the door may be readily opened from the inside without the use of keys, provided that this requirement shall not apply to the doors of rooms where persons are under legal restraint.

§159. **Miscellaneous requirements.** 1. *Exit signs.* All exits from floor areas accommodating more than fifty persons shall be plainly marked by approved exit signs and red lights. **159**

2. *Lighting.* Provision shall be made for the adequate lighting by artificial light of all stairways, hallways and other means of exit required by this article.

3. *Exits to be kept clear.* No doorway, hallway, passageway, stairs, or other means of exit, required by this article, shall be obstructed or reduced, except as to handrails, beyond its required width in any manner whatsoever.

§160. **Alterations.** No building shall hereafter be altered so as to reduce the number or capacity of exits to less than required for buildings hereafter erected. . exits hereafter installed in any building shall be installed in conformity to the requirements for exits in new buildings, unless such exits are installed to comply with a notice issued under the provisions of § 161 of this article. **160**

§161. **Existing buildings.** Every building now existing which is not provided with exit facilities as prescribed in this article for new buildings and in which the exit facilities are inadequate for the safety of the occupants, shall be provided with such good and sufficient fire escapes, stairways, or other means of egress in case of fire as shall be directed by the superintendent of buildings; and said superintendent shall have authority within said city to direct fire escapes and other means of egress to be provided upon and within such buildings or any of them, except as may be otherwise provided by law. If the owner of any building affected by any order issued under this section, or his agent, shall, within forty-eight hours, Sundays and holidays excluded, after personal service of such order has been made, file with the superintendent of buildings a written appeal from such order, the superintendent of buildings shall appoint a board of survey, as provided for in § 633 of this chapter for unsafe buildings, upon whose findings a new order shall be based and issued. **161**

§162. **Fire escapes.** 1. *Construction.* All fire escapes hereafter erected shall be constructed of incombustible materials and of sufficient strength to safely sustain a superimposed load of one hundred pounds per square foot. The owner or lessee of any building upon which a fire escape is erected shall keep the same in good repair. **162**

2. *Incumbering fire escapes.* No person shall at any time place any incumbrance of any kind whatsoever before or upon any fire escape, balcony or ladder.

3. *Notice against incumbrances.* In constructing all balcony fire escapes, the manufacturer thereof shall securely

fasten thereto, in a conspicuous place, a metal plate having suitable raised letters on the same, to read as follows: "Notice: Any person placing any incumbrance on this balcony is liable to a penalty of $10 and imprisonment for ten days."

4. *Duty of firemen and policemen.* Any fireman and policeman who shall discover any fire escape, balcony or ladder of any fire escape incumbered in any way shall forthwith report the same to the commanding officer of his company or precinct, who shall forthwith cause the occupant of the premises or apartment to which said fire escape, balcony or ladder is attached, or for whose use the same is provided, to be notified, either verbally or in writing, to remove such incumbrance and keep the same clear.

5. *Punishment for violations.* If said notice shall not be complied with by the removal forthwith of such incumbrance, and keeping said fire escapes, balcony or ladder free from incumbrance, then the said commanding officer shall apply to the nearest police magistrate for a summons for the occupant of the said premises or apartment of which the fire escape forms a part, and, on conviction, the said occupant shall be fined not more than ten dollars for each offense, or may be imprisoned not to exceed ten days, or both, in the discretion of the Court.

Article 9

Projections Beyond Building Line

(In Effect March 14, 1916)

170 §170. **Restrictions.** 1. *General.* Except as hereinafter otherwise provided in this article no part of any building hereafter erected, or of any enlargement of an existing building shall project beyond the building line so as to encroach upon a public street or public space.

2. *Projections removable.* Any part of a building permitted to project beyond the building line under the provisions of this article shall be so constructed that its removal may be made at any time without causing the building or any part thereof to become structurally unsafe.

3. *Structural support.* No part of any building hereafter erected or of any enlargement of an existing building that is

necessary for the structural safety of the building or an enlargement thereof shall project beyond the building line so as to encroach upon a public street or public space, but this shall not be deemed to prohibit the projection beyond the building line to the extent of not more than twelve inches of the footings of street walls provided such projecting parts of footings are not less than eight feet below the sidewalk level.

4. *Permissible projections.* a. Areas, meaning thereby open spaces below the ground level immediately outside the building and enclosed by substantial walls, may project beyond the building line not more than one-fifteenth of the width of the street, but not more than five feet, except where entirely prohibited by § 160 of chapter 23 of the Code of Ordinances, provided, however, that every such area shall be covered over at the street level by an approved grating of metal or other incombustible material of sufficient strength to carry safely the pedestrian street traffic.

b. Steps, leading up or down at entrances and included between ornamental columns, pilasters or cheek pieces at least three feet high on the sides of such entrances, may project beyond the building line not more than two and one-half per cent. of the width of the street, but not more than eighteen inches in any case, except where prohibited entirely by § 160 of chapter 23 of the Code of Ordinances, provided that the aggregate width of such steps shall not exceed twenty per cent. of the actual street frontage of any one building, when such frontage is twenty-five feet or more nor more than five feet when such frontage is less than twenty-five feet.

c. Columns, pilasters and ornamental projections, including their mouldings and bases, erected purely for the enhancement of the beauty of the building from an artistic standpoint, may project beyond the building line not more than two and one-half per cent. of the width of the street, but not more than eighteen inches in any case.

d. Balustrades of an ornamental characteer, including the sills and brackets on which they rest, may project beyond the building line not more than five per cent. of the width of the street nor more than twenty-two inches in any case, provided that every part of such balustrade is not less than ten feet above the sidewalk.

e. Mouldings, belt courses, cornices, lintels, sills, pediments and similar projections of a decorative character may project beyond the building line not more than one and one-fourth per cent. of the width of the street nor more than ten inches in any case.

f. The main cornice, meaning thereby a moulded projection at or near the top of the street wall, may project beyond the building line not more than five per cent. of the width of the street nor more than five feet in any case, provided such main cornice is not less than twelve feet above the sidewalk at any point.

g. Base courses may project beyond the building line not more than one and one-fourth per cent. of the width of the street nor more than ten inches in any case, provided they do not extend more than five feet above the highest point of the sidewalk.

h. Rustications and quoins may project beyond the building line not more than four inches.

i. Awnings and marquises, extending wholly or in part across the sidewalk, in connection with entrances to buildings, shall be not less than ten feet above the sidewalk at all points, except where prohibited by § 160 of chapter 23 of the Code of Ordinances, provided they are constructed of iron and glass or other incombustible materials, and securely supported from the building, and are properly drained, and provided further that, except on streets that may by ordinance be designated as market streets, no awning or marquise shall extend along the street wall of a building for more than seventy-five per cent. of the length of such wall, nor, in any case, more than fifty feet, and there shall be a clear distance of not less than four feet between any two awnings on the same building.

j. Fire escapes and balconies to fire towers or other required exists, constructed of steel or other incombustible material, when required on the fronts of buildings, may project beyond the building line not more than four and one-half feet, but no part of such fire escapes or balconies shall be less than ten feet above the sidewalk, provided that nothing in this section shall prevent the use of movable ladders or stairs to the sidewalk, so arranged that they are within ten feet of the sidewalk only when in actual use.

k. Vaults, entirely below the sidewalk level and conforming to the requirements of article 17, chapter 23 of the Code of Ordinances, shall not extend beyond the curb line. Opening in the roofs of vaults, between the building line and curb, shall be provided with substantial covers, flush in all parts with the sidewalk, of incombustible material, and so constructed and maintained as to be normally kept closed and when open thoroughly safeguarded, and to prevent persons from slipping thereon.

1. Hose connections for interior fire extinguishment equipments and fresh air inlets for plumbing systems may project through a street wall not more than twelve inches beyond the building line, except that where there is an angle formed by the street wall and a cheek piece or the base of a column, pilaster or ornamental projection, provided as in this section specified, they may be so located that no part extends more than fifteen inches from either side of such angle.

5. *Rules governing projections.* Nothing in this article shall be deemed to abridge the powers and duties of the borough presidents or the commissioners of parks within their respective jurisdictions, to adopt additional rules as may be necessary with respect to the construction or disposition of parts of buildings projecting beyond the building line. The borough presidents or commissioners of parks may, when deemed necessary or desirable, fix further restrictions as to the extent of projections beyond the building line, but no projection greater than in this article specified shall be permitted.

§171. **Permits revocable.** Any permission, express or implied, to construct part of a building so as to project beyond the buildling line, under the provisions of this article, is revocable by the Board of Aldermen or the Board of Estimate and Apportionment at will. **171**

§172. **Alterations.** No alterations or enlargement shall be made to any existing part of a building now projecting beyond the building line, except in conformity with the provisions of this article so far as it affects new construction. **172**

§173. **Existing encroachments.** Such parts of buildings which already project beyond the building line may be maintained as constructed until their removal is directed by the Board of Aldermen or the Board of Estimate and Apportionment, provided, however, that nothing contained in this article shall be deemed to abridge the right of The City of New York, or any of its officers, to continue any action for the removal of any unauthorized projection beyond the building line or for the collection of any penalty heretofore incurred in connection therewith. **173**

§174. **Action of Board of Estimate and Apportionment.** Nothing in this article shall be deemed to authorize any projection beyond the building line on those streets on which the removal of projections has been heretofore or may be hereafter directed by the Board of Estimate and Apportionment, except in conformity to resolutions by such Board. **174**

Article 10

Safeguards during Construction or Demolition
(In Effect February 9, 1916)

190 §190. **Enforcement of article.** Except as may be otherwise provided by any law or ordinance, the provisions of this article shall be enforced by the superintendent of buildings, and all safeguards required by the provisions of this article or by any rules authorized thereunder shall be subject to the supervision of the bureau of buildings. The superintendent of buildings shall, from time to time, adopt such rules, consistent with the provisions of this article, as may be necessary to secure fully the protection of persons and property. In case any safeguard shall not be provided as prescribed by this article, the superintendent of buildings shall cause a notice to be served personally upon the persons whose duty it may be to provide the same or upon the owners of the buildings affected, requiring such safeguard and specifying the manner in which the same shall be erected. If such safeguard is not provided as required in such notice, within three days after the service thereof, the superintendent of buildings shall have full power and authority to provide or cause the same to be provided as herein specified. All expenses connected with same may become a lien on the property inclosed or protected, which lien may be created and enforced in the same manner as now provided in § 652 of this chapter.

191 §191. **Sidewalk sheds.** Whenever any building or part thereof, within ten feet of the building line, is to be erected or raised to exceed forty feet in height, or whenever such a building more than forty feet in height is to be demolished, the owner or the person doing or causing such work to be done shall erect and maintain during such work a substantial shed over the sidewalk in front of said building and extending, so far as practicable, from building line to curb. Such shed shall remain in place until the building is enclosed,

or, in case of a demolition, until the building has been reduced to twenty feet in height. Every such shed shall be kept properly lighted at night.

§192. **Temporary fence.** In any building operation that does not require a sidewalk shed as provided in Sec. 191 of this article, the owner or person doing or causing such work to be done, shall, unless relieved by a general rule of the superintendent of buildings or a special permit from him, erect and maintain in front of the building during such building operation, a substantial fence not less than eight feet high, of wood or other suitable material. Such fence may extend not more than six feet into the highway, and shall be built solid for its full length except for such openings, provided with sliding doors or doors swinging inwards, as may be necessary for a proper prosecution of the work. 192

§193. **Roofs and skylights of adjoining buildings.** When any building is to be carried above the roof of an adjoining building, proper means for the protection of the skylights and roof of such adjoining building shall be provided, at his own expense, by the person constructing or causing the construction of such building, provided that if the owner, lessee or tenant of the adjoining building should refuse permission to have the roofs and skylights so protected, the responsibility and expense for the necessary protection shall devolve on the person refusing this permission. 193

§194. **Scaffolding.** All scaffolds used in connection with the erection, alteration or demolition of any building shall be constructed in a manner to secure the safety of the workmen on them and of all persons passing under or near them. All scaffolds used on or about buildings at a height of more than twenty feet above the street or ground level, or a floor, except scaffolding wholly within the interior of a building and covering the entire floor space of any room therein, shall be provided along the outer edges and ends with substantial railings or enclosures of wire mesh or other suitable material, extending at least three feet above the working platform. 194

§195. **Floors to be filled in or covered over.** If the floors of any building are to be of fireproof construction the floor filling shall be completed as the building progresses If the floors consist of wood beams the under-flooring, when double flooring is to be used, shall be laid on each story as the building progresses; when double floors are not to be used, the floors two stories below the story where the work is being performed shall be kept planked over. If the floor beams are of iron or steel, the entire tier of iron or steel beams on which the structural iron or steel work is being erected, except such spaces as may be reasonably required 195

for the proper construction of such iron or steel work, and for the raising or lowering of materials to be used in the construction of such building, or such spaces as may be designated by the approved plans for stairways and shafts shall be thoroughly planked over.

196 §196. **Protection of floor openings.** All floor openings within a building in the course of construction shall be enclosed or fenced in on all sides by a barrier of suitable height, except on those sides which may be used for the handling of materials hoisted through such openings, or at which stairs or ladders land, provided, that such sides, other than landings, shall be guarded by an adjustable barrier not less than three nor more than four feet from the floor and not less than two feet from the edge of such opening.

197 §197. **Weather protection.** Whenever permission has been given under any of the provisions of this chapter to enter any adjoining building the person who receives such permission or who is responsible for the work requiring such permission, shall provide for such adjoining building adequate protection against the weather.

198 §198. **Cellar drainage.** Before the foundation walls of any building are completed provision shall be made to prevent water accumulating in the excavation or cellar to the injury of the foundation, and if there is a sewer in the street the cellar shall also be connected therewith.

199 §199. **Overloading prohibited.** No building or part thereof, or any temporary support or scaffolding in connection therewith, shall be loaded during erection, alteration or demolition in excess of its safe carrying capacity.

200 §200. **Precautions during demolition.** In demolishing any building or part thereof, story after story shall be completely removed. No material shall be stored upon a floor of any building in the course of demolition, but old material shall be lowered to the ground immediately upon displacement. The material to be removed shall be properly wet to lay the dust incident to its removal.

Article 11

Partition Fences and Walls

(In Effect March 30, 1915)

§210. **Construction and maintenance of fences.** All partition fences, unless erected under some special agreement, shall be so built that the dividing line between the properties shall run through the center of such fence in each case, and they shall be built and maintained at the joint expense of the owners of the land on each side. **210**

§211. **Retaining walls.** 1. *To conform to street regulation.* When the regulation of a lot, in conformity with the street or streets on which it is situated, shall require the ground on such lot to be raised and kept higher than the ground of the adjoining lot or lots (provided the ground of such adjoining lot or lots is not maintained at a grade lower than in conformity with the street or streets on which they are situated) and a retaining wall for supporting the same shall be necessary, such retaining wall shall be made and maintained jointly by the owners of the land each side and shall stand one-half upon the land of each owner; but, if the owner of the lot or lots having the lower grade shall bear and discharge the entire cost and expense of the making, such retaining wall shall be built entirely upon the lot having the higher grade and shall thereafter be maintained jointly by the owners of the land on both sides thereof. **211**

2. *To support adjoining earth.* Where an excavation has been made or a fill placed on any lot, but, as the case may be, not below or above the legal grade in conformity with the street on which that lot fronts, and the land adjoining it has no building or permanent structure thereon, other than frame sheds or structures of like character, and where a retaining wall shall be necessary to support the adjoining earth, such retaining wall shall stand one-half upon the lot of each owner and shall be made and maintained jointly by the owners of the land on each side; provided, that, if the owner of the lot having the lower grade shall bear and discharge the entire cost and expense of the making, such retaining wall shall be built entirely upon the lot having the higher grade and shall thereafter be maintained jointly by the owners of the land on both sides thereof.

3. *Surplus wall.* Where any owner shall insist on maintaining his ground either higher or lower than the legal regulation as hereinafter provided, except in a case herein otherwise specifically provided for, the surplus retaining wall, which may be necessary to support such height or provide for such excavation, shall be made and maintained at the sole expense of such owner.

4. *Construction.* All retaining walls, required under this section shall be constructed in accordance with the provisions of this chapter.

5. *Removal.* Any retaining wall erected or provided

under this section, standing partly on the land of each owner, may be removed by either owner when the necessity for such retaining wall no longer exists.

212 §212. **Regulation of lots.** The regulation of lots, in conformity with the street or streets on which they are situated, shall be calculated at an ascent of 2 inches in every 10 feet, measured from the curb in a direction at right angles or normal thereto; provided that, in the case of a lot having more than one street frontage, when so situated that the street frontages intersect, the curb along the longest street frontage shall be used, and, when so situated that the street frontages do not intersect, the curb along each frontage shall be used to one-half the depth of the lot between street frontages. A lot, as referred to in this section, shall be deemed and construed to mean a parcel of land not over 25 feet by 100 feet, in one ownership, whether adjacent land be in the same ownership or not; but, for the purpose hereof, no land in the same ownership may be divided into lots smaller than 25 feet by 100 feet.

213 §213. **Neglect to maintain.** If any person, whose duty it may be to jointly make or repair any partition fence or retaining wall or any part thereof, in pursuance of the provisions of this article, shall neglect so to do, or to join in so doing, for 6 days, after being requested, in writing, by the owner or owners of the adjoining ground, the owner of such adjoining ground may make or repair such partition fence or retaining wall, or cause the same to be done, and may recover from such person such share of the expense of making or repairing so much thereof as is necessarily made or repaired by him, with costs, in any court having jurisdiction.

214 §214. **Disputes.** In case of any dispute between parties, as to what part or portion of the expense shall be borne and discharged by either of them, for building or maintaining any partition fence or wall, and in all cases of dispute concerning the sufficiency of any fence or wall, the controversy shall be determined by the superintendent of buildings of the borough in which the fence or wall may be situated.

215 §215. **Enforcement.** The superintendent of buildings in each borough may, in order to effect the purposes of this article, notify in writing any owner of any requirement under any provision thereof. Any person who shall fail to proceed, within 10 days, in accordance with such notice, or to comply therewith, within such reasonable time thereafter as shall be allowed or permitted by the superintendent of buildings, shall be liable to a penalty of not less than $10, nor more than $50, and, in addition, he shall be liable to a further penalty of $1 for each and every day that his default shall continue, after due notice thereof.

Excavations and Foundations
(In Effect September 22, 1915)

§230. **Excavations.** 1. *Safeguarding generally.* Until provision for permanent support has been made, all excavations shall be properly guarded and protected so as to prevent the same from becoming dangerous to life or limb and shall be sheet-piled, braced or shored, where necessary to prevent the adjoining earth from caving in, by the person causing the excavation to be made. 230

2. *When retaining wall required.* When an excavation is made on any lot, and provision for the support of adjoining earth is not otherwise made in accordance with law, the person making such excavation or causing it to be made shall, at his own cost and expense, except as may be provided in article 11 of this chapter or as hereinafter provided in this section, build a retaining wall to support the adjoining earth; and such retaining wall shall be carried to the height of the adjoining earth, and be properly protected by coping.

3. *Support of neighboring walls.* a. When excavation exceeds ten feet. Whenever an excavation is intended to be, or shall be carried to the depth of more than ten feet below the curb, the person causing such excavation to be made shall at all times, if afforded the necessary license to enter upon the adjoining land, and not otherwise, at his own expense, preserve and protect from injury any wall, building or structure, the safety of which may be affected by said excavation, and support the same by proper foundations, whether the said wall, building or structure is down more or less than ten feet below the curb. If the necessary license is not accorded to the person making such excavation, then it shall be the duty of the owner refusing to grant such license to make such wall, building or structure safe, and to support the same by proper foundations; and, when necessary for that purpose, such owner shall be permitted to enter upon the premises where such excavation is to be made.

b. When excavation does not exceed ten feet. If such excavation is not intended to be, or shall not be, carried to

a depth of more than 10 feet below the curb, the owner of any wall, building or structure, the safety of which may be affected by said excavation, shall preserve and protect the same from injury, and support the same by proper foundation; and, when necessary for that purpose, shall be permitted to enter upon the premises where such excavation is to be made. In case such wall, building or structure, however, is so located that the curb to which it is properly referred is at a higher level than the curb to which the excavation is referred, such part of any necessary underpinning or foundation as may be due to the difference in curb levels shall be made and maintained at the joint expense of the person causing the excavation to be made and the owner of such wall, building or structure.

4. *Support of party wall.* In case an adjoining party wall is intended to be used by the person causing the excavation to be made, and such party wall is in good condition and sufficient for the uses of the existing and proposed buildings, the person causing the excavation to be made shall, at his own expense, preserve such party wall from injury and support the same by proper foundations, so that said party wall shall be and remain practically as safe as before the excavation was commenced.

5. *Superintendent of buildings may act.* If the person whose duty it shall be under the provisions of this chapter to properly guard and protect an excavation, or to prevent adjoining earth from caving in, or to preserve or protect any wall, building or structure from injury, shall neglect or fail so to do after having had a notice of 24 hours from the superintendent of buildings, such superintendent may enter upon the premises and employ such labor, and furnish such materials and take such steps as, in his judgment, may be necessary to prevent adjoining earth from caving in or to make such wall, building or structure safe and secure, or to prevent the same from becoming unsafe or dangerous, at the expense of the person whose duty it is to keep the same safe and secure. The City of New York or any person doing the said work, or any part thereof, under and by direction of a superintendent of buildings, may bring and maintain an action against the person last herein referred to, to recover the value of the work done and materials furnished, in and about the said premises, in the same manner as if he had been employed to do the work by the said person.

231 §231. Soil, bearing capacity. 1. *Indicative statement required.* Applications for permits for new buildings, and when necessary, for alterations to existing buildings, shall

contain a statement of the character of the soil at the level of the footings.

2. *Presumptive capacities.* In the absence of a satisfactory test of the sustaining power of the soil, different soils, excluding mud, shall be deemed to safely sustain the following loads to the superficial foot, namely:

Soft clay	1 ton
Wet sand	2 tons
Firm clay	2 tons
Sand and clay, mixed or in layers	2 tons
Fine and dry sand	3 tons
Hard dry clay	4 tons
Coarse sand	4 tons
Gravel	6 tons
Soft rock	8 tons
Hard pan	10 tons
Medium rock	15 tons
Hard rock	40 tons

In case the soil under the footings of any one building is partly rock and partly yielding soil, the bearing capacity of the yielding soil shall be taken at not more than one-half of the capacity otherwise allowed.

3. *Soil tests.* When a doubt arises as to the safe sustaining power of the soil upon which a building is to be erected, the superintendent of buildings may order borings to be made, or he may direct the sustaining power of the soil to be tested in accordance with the methods established by the rules of the superintendent of buildings, by and at the expense of the owner of the proposed building. Where a test is made of the sustaining power of the soil, the superintendent of buildings shall be notified so that he may be present in person or by representative. The record of the test shall be filed in the bureau of buildings.

§232. **Foundations, generally.** 1. *General requirements.* Every building, except buildings erected upon solid rock or upon wharves or piers on the water front, shall have foundations of brick, or other approved masonry, iron or steel, laid not less than four feet below the surface of the earth, on the solid ground or level surface of rock, or upon piles or ranging timbers when solid earth or rock is not found. 232

2. *Protection of metal work.* Where metal is incorporated in or forms part of a foundation, it shall be thoroughly protected from rust by paint, asphaltum, concrete, or by such materials and in such manner as may be approved by the superintendent of buildings.

233 §233. **Footings.** 1. *Materials.* The footings of foundation walls shall consist of footing stones, concrete, reinforced concrete construction or steel grillages. Wood footings may be used if they are entirely below the permanent water level.

2. *Footing stones.* Footing stones shall not be less than 2 by 3 feet, they shall not be less than 8 inches in thickness for walls, nor less than 10 inches in thickness under piers, columns or posts. Footing stones shall be well bedded and laid crosswise, edge to edge.

3. *Concrete footings.* Concrete footings shall be not less than 12 inches thick, except that for frame buildings the thickness may be not less than 8 inches.

4. *Steel grillages.* When grillage beams, resting on a proper concrete bed, are used, they shall be provided with separators and bolts and shall be inclosed and filled solid between with concrete.

5. *Pressure under footings.* For the loads exerting pressure under the footings of foundations the full dead loads and the figured live loads on the lowest tier of columns, piers or walls shall be taken. For this purpose the reduced live loads permitted by subdivision 7 of § 53 of this chapter may be used.

6. *Design.* Footings shall be so designed that the loads they sustain per unit of area shall be as nearly uniform as possible and within the bearing capacities of soils established by this article, and that the stresses in the materials shall not exceed those fixed by this chapter. In proportioning the areas of footings for any building the dead loads alone shall be considered, provided, however, that in no case shall the pressure under the footings, as determined in subdivision 5 of this section, exceed the safe load on the soil established by this article.

234 §234. **Foundation piers and caissons.** The foundations of any building may be carried down to rock or hard pan by isolated piers of approved masonry or reinforced concrete, or by open or pneumatic caissons, so designed that the working stresses in the materials and the loads on the rock or hard pan do not exceed those established by this chapter.

235 §235. **Pile foundations.** 1. *General requirements.* Piles intended to sustain a wall or building, or any part thereof, shall be driven to a solid bearing, if practicable to do so, and the method of driving shall be such as not to impair their strength. No pile or group of piles shall be loaded eccentrically. Any type of pile construction not provided for in this section shall meet such requirements as may be prescribed by the rules of the superintendent of buildings.

2. *Wood piles.* a. Quality and size. Wood piles shall be of approved timber, sound and straight. The diameter at the point shall be not less than 6 inches. The diameter at the butt shall be not less than 10 inches for piles not over 25 feet in length, and not less than 12 inches at the butt for piles of greater length.

b. Allowable loads. The safe sustaining power of any wood pile in tons shall be taken as twice the weight of the hammer in tons multiplied by the height of the fall in feet, divided by the average penetration of the pile in inches under the last five blows, plus one, when a drop hammer is used for driving, and as twice the weight of the hammer in tons multiplied by the height of the fall in feet, divided by the average penetration in inches under the last five blows, plus one-tenth, when a steam hammer is used for driving, provided that the driving has reached such a point when successive blows produce approximately equal penetration. No wood pile, however, shall be weighted with a load exceeding 20 tons.

c. Construction. The distance between wood piles shall be not more than thirty-six nor less than twenty inches on centers. The tops of wood piles shall be cut off below the permanent water level. When ranging and capping timbers are laid on piles for foundations, they shall be of hard wood not less than six inches thick and properly joined together, and their tops laid below the permanent water level.

d. Meadow land construction. When wood piles are used under frame buildings built over the water or on salt meadow land, they may project above the water a sufficient height to raise the building above high tide, and the building may be placed directly thereon without other foundation.

3. *Concrete piles.* a. Concrete filled steel tubes. For piles consisting of steel tubes filled with concrete, the tubes shall have a diameter of 9 inches or more and a thickness of not less than 5-16 of an inch. The ends of each tube shall be faced perpendicular to its axis. Splices shall be of an approved design and not more than one splice shall be used in the total length of the pile. The length of any such pile shall not exceed forty times the inside diameter of the tube. Such piles shall be driven to a full bearing on rock. The allowable load on any such pile shall not exceed 500 lbs. per square inch on the concrete and 7,500 lbs. per square inch on the steel, provided that in computing the effective area of the steel the outer 1-16 inch of thickness shall be deducted from the thickness of the tube. No interior steel reinforcement shall be used.

b. Piles moulded before driving. Concrete piles moulded and cured before driving shall not be provided with more than 4 per cent. of longitudinal reinforcement. The diameter or lateral dimension of such a pile shall be not less than 8 inches at the foot and shall not average less than 12 inches in the length of the pile. The length shall not exceed twenty times the average diameter when the pile is driven to rock nor forty times the average diameter in any case. When driven to rock the allowable load on any such pile shall not exceed 500 lbs. per square inch on the concrete at the average cross-section and 6,000 lbs. per square inch on the longitudinal reinforcement. If driven to rock, the foot shall be provided with a metal shoe.

c. Piles moulded in place. Concrete piles cast in place shall be so made and placed as to insure the exclusion of any foreign matter, and to secure a perfect full-sized shaft. The average diameter of any such pile in place shall not be less than 11 inches and the diameter of the foot shall be not less than 6 inches. The length shall not exceed thirty times the average diameter. The allowable load shall not exceed 350 lbs. per square inch on the concrete.

d. Allowable loads. When concrete piles are not driven to rock they shall be treated as friction piles and their carrying capacities shall be determined by test in accordance with rules established by the superintendent of buildings; but the stresses herein given for the materials composing them shall not be exceeded in any case.

e. Concrete. The concrete for concrete piles shall be mixed in the proportion of 1 part Portland cement to not more than 2 parts of clean, coarse sand, and 4 parts of broken stone or gravel of a size passing through a 1-inch ring, with sufficient water to produce a plastic or viscous consistency.

4. *Tests.* When any doubt exists as to the safe sustaining power of piles upon which a building or structure is to be supported, the superintendent of buildings may order a test of the same to be made at the expense of the owner of the proposed building or structure or the person causing the piles to be driven. The record of every such test shall be filed in the bureau of buildings.

236 §236. **Foundation walls.** 1. *Definition.* Foundation walls shall be construed to include all walls and piers built below the curb level or the nearest tier of beams to the curb, which serve as supports for walls, piers, columns, or other structural parts of a building or structure.

2. *Materials.* Foundation walls shall be built of approved masonry, reinforced concrete or steel protected by masonry. All masonry foundation walls shall be laid in cement mortar.

3. *Thickness.* If built of rubble stone, foundation walls shall be at least 8 inches thicker than the walls next above them, but not less than 18 inches in any case. If built of brick, concrete or hollow building blocks, they shall be at least 4 inches thicker than the walls next above them, but not less than 12 inches thick in any case. For each additional 10 feet, or part thereof, below the depth of 12 feet below the curb level, the thickness shall be increased 4 inches.

4. *Brick.* When brickwork in foundation walls is stepped up from the footings, the offsets, if laid in single courses, shall not exceed 1½ inches, or if laid in double courses, shall not exceed 3 inches.

5. *Stone.* Rubble stone masonry, unless built in dressed, level courses, shall not be used for buildings exceeding 75 feet in height.

6. *Hollow building blocks.* Foundation walls of hollow blocks may be used only when the upper walls are of frame or hollow building block construction. The hollow spaces in the blocks shall be filled, as the construction progresses, with concrete of not less than 1 part of cement to 9 parts of aggregate.

§237. **Retaining walls.** All walls built to retain or support adjoining earth or rock, including foundation walls subjected to pressure from adjoining earth or rock, shall be constructed of approved masonry or reinforced concrete and so designed that in resisting the pressures to which they are subjected, including any water pressure that may exist, the working stresses of the materials shall not be exceeded, the soil shall not be overloaded and the stability of the wall shall be insured. 237

Article 13

Masonry Construction

(In Effect October 6, 1915)

250 §250. **Definitions.** For the purposes of this chapter:

a. Approved masonry means masonry constructed in accordance with the requirements of this article, of the materials specified therein;

b. Bearing wall means any wall which carries any load other than its own weight;

c. Height, as applied to a wall, means the vertical distance to the top measured from the foundation wall, or from a girder or other immediate support of such wall.

251 §251. **Construction.** 1. *Materials.* Approved masonry shall be constructed of brick, stone, concrete, or hollow building blocks, or a combination of these materials as provided in this article. It shall be properly and solidly bonded with joints filled with mortar.

2. *Protection against freezing.* No masonry shall be built when the temperature is below 28 degrees F. on a rising temperature or 32 on a falling temperature at the point where the work is in progress. No frozen materials shall be built upon.

3. *Wetting brick.* All brick shall be thoroughly wet just previous to being laid, except in freezing weather, when they shall be thoroughly dry.

4. *Erection of walls and piers.* Masonry walls and piers shall be built to a line and carried up plumb. In each story the walls shall be carried up full thickness to the top of the beams above. No wall of any building shall be built up more than two stories in advance of any other portions of the walls of the building, provided that where walls are carried independently by girders at each floor this provision shall not apply. All walls that meet or intersect shall be bonded or anchored to each other in an approved manner. Any pier having less than four square feet of cross section when located at an intersection with a wall shall be bonded into and built as part of that wall.

5. *Piers.* Every pier supporting a girder, arch, column or a lintel spanning an opening over 10 feet, upon which a wall rests, shall be built of approved masonry. Every such pier having a height of more than ten times its least dimension, and every isolated pier built of brick or hollow building blocks, having less than 9 square feet of cross section shall, at vertical intervals of not more than 30 inches, have built into it bond stones not less than 4 inches thick, or approved perforated steel or cast iron plates of the full size of the pier. Isolated piers shall not exceed in height ten times their least dimension.

6. *Arches and lintels.* Door and window openings in walls shall be spanned by arches, or lintels having a bearing

at each end of not less than 5 inches. In walls of non-fireproof buildings, when the thickness of the lintel is less than the thickness of the wall to be supported, a timber lintel may be placed on the inside of the wall resting at each end not more than 2 inches on the wall, and chamfered or cut to serve as centre for a rowlock or keyed arch. When the opening is more than 6 feet in width, templates shall be provided under the ends of lintels resting on the walls, unless the pressure under the lintel does not cause a working stress in the masonry greater than specified in article 3 of this chapter.

7. *Timber in walls.* No timber, except lintels, provided for in subdivision 6 of this section, and nailing blocks not over 8 inches in length, shall be placed in any masonry wall.

8. *Bracing during construction.* The walls and beams of every building during erection or alteration shall be strongly braced from the beams of each story, and when required shall also be braced from the outside until the building is enclosed.

§252. **Brick masonry.** Except when laid in flemish bond or faced with running bond, every sixth course in brick walls shall be a heading course. When running bond is used, every sixth course shall be bonded into the backing by cutting the course of the face brick and putting in diagonal headers behind the same, or by splitting the face brick in half and backing the same with a continuous row of headers. Where face brick is used of a different thickness from the brick used for backing, the courses of the face brick and backing shall be brought to a level at intervals of not more than six courses in height of the backing, and the face brick shall be properly tied to the backing by a full heading course of the face brick or other approved method. Face brick shall be laid at the same time as the backing, and shall in no case be laid after the backing is in place. 252

§253. **Stone masonry.** 1. *Workmanship.* No stone shall be laid in a wall in any other position than on its natural bed. Stones shall be firmly bedded in cement mortar and all spaces and joints thoroughly filled. No stone shall be used that does not bond or extend into the wall at least 6 inches. All headers shall be at least 12 inches in width and 8 inches in thickness, and consist of good flat stones. 253

2. *Bond.* All stone walls 24 inches or less in thickness shall have at least one header extending through the wall in every 3 feet in height from the bottom of the wall, and in every 3 feet in length, and if over 24 inches in thickness, shall have one header for every 6 superficial feet on both sides of the wall, laid on top of each other to bond together, and running into the wall at least 2 feet.

3. *Limitation.* Rubble stone walls, except for foundations, shall not be used in buildings over 60 feet high.

254 §254. **Hollow building block masonry.** 1. *Construction.* Where walls of hollow building blocks are decreased in thickness, the blocks in the top course of the thicker wall shall be filled solidly with concrete or covered with slabs of hard burned terra cotta or concrete at least 1 inch in thickness. Terra cotta or concrete templates of approved size and thickness shall be placed under all floor beams and girders to properly distribute the loads.

2. *Veneering.* Hollow building blocks of terra cotta used in exterior walls shall be extra hard burned or veneered with brick, architectural terra cotta, or stone, or covered on the exposed surface with at least three-quarters of an inch of Portland cement stucco. When walls of hollow building blocks are veneered with brick, the facing shall be bonded to the backing with headers every sixth course of the brickwork.

3. *Limitation.* Walls of hollow building blocks shall not be used in buildings over forty feet in height, except that in buildings of skeleton construction terra cotta blocks with shells and webs not less than one inch thick, faced with at least four inches of brickwork properly bonded as specified in this section, may be used.

255 §255. **Ashlar.** Stone, architectural terra cotta or other approved material, used for the facing of any wall and known as ashlar, shall be not less than 4 inches thick. Such ashlar shall be anchored to the wall in an approved manner. Within the fire limits ashlar shall not be used in any wall the total thickness of which is less than 12 inches.

256 §256. **Mortar.** In the following masonry construction no mortar other than cement mortar shall be used:

a. Foundation walls and footings;
b. Rubble stone walls;
c. Hollow building block construction;
d. Walls faced with ashlar;
e. Isolated piers;
f. Curtain walls;
g. Exterior walls of skeleton structures;
h. Parapet walls;
i. Chimneys above roofs;
j. Linings of existing walls.

257 §257. **Wall thicknesses.** 1. *Application.* a. The thickness of masonry walls shall in all cases, irrespective of any other requirements of this section, be sufficient to keep the stresses in the masonry within the working stresses prescribed by this chapter.

b. The heights herein specified, unless otherwise clearly indicated, are the heights of walls as defined in §250.

c. In all cases the wall thicknesses herein specified shall be applied to the nearest tier of beams to the height specified.

d. Nothing in this section shall prevent the use in any wall of the same amount of material in piers and buttresses as is required for the thicknesses herein prescribed.

e. The unsupported height of any wall or part thereof shall not exceed twenty times the thickness of such unsupported part, unless reinforced by adequate cross-walls, buttresses or columns.

2. *Residence buildings.* Except as hereinafter provided, the thicknesses of masonry walls of residence buildings hereafter erected shall be not less than the following:

a. When over 75 feet in height, 12 inches for the uppermost 25 feet, 16 inches for the next lower 35 feet, 20 inches for the next lower 40 feet, with a 4-inch increase for each additional lower section of 40 feet;

b. When not over 75 feet in height, 12 inches for the uppermost 55 feet, and 16 inches below that.

3. *Public and business buildings.* Except as hereinafter provided, the thickness of masonry walls of public and business buildings hereafter erected shall be not less than the following:

a. When over 75 feet in height, 16 inches for the uppermost 25 feet, 20 inches for the next lower 35 feet, 24 inches for the next lower 40 feet, and increasing 4 inches for each additional lower section of 40 feet;

b. When over 60 feet and not over 75 feet in height, 16 inches for the uppermost 50 feet, and 20 inches below that;

c. When over 40 feet and not over 60 feet in height, 12 inches for the uppermost 20 feet, and 16 inches below that;

d. When not over 40 feet in height, 12 inches throughout.

4. *Increased thickness, when required.* a. Every bearing wall with face brick bonded with clip courses or ties, and every bearing wall faced with ashlar shall have a total thickness of at least 4 inches more than otherwise required unless the ashlar is at least 8 inches thick in every alternate course and bonded to the wall.

b. Every wall built of rubble stone shall have a thickness at least 4 inches more than required by subdivisions 2 and 3 of this section, but no such stone wall shall be less than 18 inches thick.

c. When the clear span between bearing walls is over 26 feet, such walls shall be increased 4 inches in thickness for every 12½ feet or part thereof that said span is over 26 feet.

d. All walls over 105 feet long between cross-walls or proper piers or buttresses, shall be increased in thickness over the minimum requirement at least 4 inches for every 105 feet, or part thereof, over 105 feet in length.

e. If the horizontal section through a bearing wall shows more than thirty per cent. area of flues and openings, such part of the wall where the excessive openings exist shall be increased four inches in thickness over minimum requirements for every fifteen per cent. or fraction thereof, of flue or opening area in excess of thirty per cent., provided that if such wall be laid up in Portland cement mortar the increase in thickness shall be required only when the area of flues and openings exceeds forty-five per cent.; or, instead of increasing such wall in thickness, adequate piers or buttresses shall be provided.

f. In case any wall is increased in thickness in accordance with one of the requirements of this subdivision, it will not be necessary to further increase the thickness to meet another requirement of this subdivision, unless, in the judgment of the superintendent of buildings, the safety of the wall demands it.

5. *One-story buildings.* In one-story buildings the walls may be 8 inches thick, provided that no such wall exceeds 50 feet in length between cross-walls or adequate buttresses.

6. *Small residence buildings.* In any residence building outside the fire limits and in any residence building not more than twenty feet in width within the fire limits, bearing walls of brick may be eight inches in thickness, provided such buildings are not more than forty feet in height and that the eight-inch walls do not exceed fifty feet in length between cross-walls or adequate buttresses, except that when the walls are not pierced by openings of any kind such length may be sixty feet.

7. *Residence buildings outside the fire limits.* Outside the fire limits the thicknesses of walls of hollow building blocks shall be not less than 8 inches for the uppermost 20 feet, 10 inches for the next lower 10 feet, and 12 inches for the next lower 10 feet.

8. *Non-bearing walls.* The thicknesses of non-bearing walls of residence buildings, or of public and business buildings, may be 4 inches less than those specified, respectively, in subdivisions 2 and 3 of this section for walls of corresponding height, provided that no such wall shall be less than 12 inches thick nor extend for more than 55 feet in height without any increase of thickness.

9. *Curtain walls.* Non-bearing walls built between piers or metal columns shall be not less than 12 inches thick for

the uppermost 60 feet of height, increasing 4 inches in thickness for each next lower section of 60 feet.

10. *Walls of skeleton structures.* Masonry walls supported at each story by girders may be 12 inches thick for the entire height of the building.

11. *Interior walls.* a. In residence buildings, interior walls of brick or concrete, whether bearing or non-bearing walls, may be 8 inches thick for the uppermost 55 feet and 12 inches for the next lower 20 feet, provided that no such wall shall exceed 75 feet in height nor 30 feet in length between cross-walls or buttresses.

b. Interior walls over 75 feet in height may be reduced in thickness in such proportion to the number of cross-walls, piers or buttresses, and their nearness to each other, as may be deemed safe by the superintendent of buildings, provided, however, that such walls shall be not less than 12 inches thick at the top, and shall be gradually increased in thickness to the bottom.

§258. **Existing walls.** 1. *When use is permitted without change.* Walls heretofore built, whose thickness at the time of their erection was in accordance with the requirements of the then existing laws, but which are not in accordance with the requirements of this chapter, may be used without change, if in good condition, in buildings hereafter erected or altered, provided the stresses in the masonry do not exceed the working stresses prescribed by this chapter and the height of such walls be not increased except in so far as may be necessary to make the height uniform. 258

2. *Lining walls.* In case it is desired to use and increase the height of any existing wall which is less in thickness than required by this chapter, such wall shall be reinforced by a lining of brickwork so that the combined thickness with the old wall shall be not less than 4 inches more than the thickness required for a new wall corresponding with the total height of the wall when increased in height, provided that such lining shall not be used to a greater height than forty feet and that such wall shall not be increased to exceed seventy-five feet in height. Such lining shall be supported on proper foundations, and shall be not less than eight inches in thickness, and thoroughly anchored to the old wall with suitable anchors, placed two feet apart and properly fastened or driven into the old wall in rows, alternating vertically and horizontally with each other, the old wall being first cleaned of plaster or other coatings where any lining is to be built against the same. No wall, however, shall be lined unless in good condition and not until the approval of the superintendent of buildings has been given.

259 §259. **Parapet walls.** All exterior and division or party walls of masonry over 15 feet high, except in detached buildings with overhanging roofs, or where such walls are to be finished with cornices, gutters or crown mouldings, shall have parapet walls carried above the roof. For residence buildings parapet walls shall be not less than eight inches thick and carried at least two feet above the roof, except that in party walls between buildings of the same height and not over forty feet in height, such parapet shall be not less than eight inches above the roof. For public and business buildings parapet walls shall be not less than twelve inches thick, and carried at least three feet above the roof. All parapet walls shall be coped with stone, terra cotta, concrete or cast iron.

260 §260. **Hollow walls.** In all walls that are built hollow the same amount of masonry shall be used in their construction as if they were built solid, as in this chapter provided, and no hollow wall shall be built unless the parts of same are connected by proper ties, either of brick, stone or iron, placed not over 24 inches apart.

261 §261. **Recesses and chases.** 1. *Stairway and elevator recesses.* Recesses for stairways or elevators may be left in the foundation walls of buildings, but in no case shall the wall be of less thickness than the walls of the fourth story, unless reinforced by additional piers with iron or steel girders, or iron or steel columns and girders, securely anchored to walls on each side.

2. *Alcoves.* Recesses for alcoves and similar purposes shall have not less than 8 inches of brickwork at the back of such recesses, and such recesses shall be not more than 8 feet in width, and shall be arched over or spanned with iron or steel lintels, and not carried up higher than 18 inches below the bottom of the beams of the floor next above.

3. *Pipe-chases.* No chase for pipes or other purpose shall extend into any wall more than one-third of its thickness. No horizontal chase in any wall shall exceed 4 feet in length. No chase shall be made within the required area of any pier. Chases shall not be cut in walls of hollow block construction, but may be provided by properly formed blocks. Chases shall be filled up with solid masonry within the floor thickness at each story.

4. *Limitations.* The aggregate area of recesses and chases in any wall shall not exceed one-fourth of the whole area of the face of the wall on any story. No recess shall be made within a distance of 6 feet from any other recess in the same wall.

262 §262. **Miscellaneous requirements.** 1. *Hollow brick.* The inside 4 inches of walls may be built of hard-burnt

hollow brick, properly tied and bonded into the walls and of the dimensions of ordinary bricks.

2. *Furring.* Where hollow blocks of any kind are used as furring for walls, they shall not be included in the measurement of the thickness of such walls.

3. *Fire stops.* In all walls furred with wood, the brickwork between the ends of wood beams shall project the thickness of the furring beyond the inner face of the wall for the full depth of the beams.

§263. **Masonry arches.** All masonry arches shall be capable of sustaining the weight and pressure which they are to carry, and the stress at any point shall not exceed the working stresses prescribed by this chapter. Tie rods shall be used where necessary to resist the thrust. **263**

Article 14

Wood Construction

(In Effect March 30, 1915)

§280. **Wood beams and girders.** 1. *Width of beams.* No wood floor or roof beam used in any building hereafter erected within the fire limits shall be less than three inches thick. **280**

2. *Supports.* Every wood beam, except header and tail beams, shall have bearings of at least four inches. The ends of all such beams, where they rest on brick walls, shall be cut to a level of three inches in their depth. In no case, except in frame buildings, shall either end of a floor or roof beam be supported on stud partitions. All wood trimmer, header and tail beams over four feet in length, unless supported on a wall or girder, shall be hung in approved metal stirrups or hangers.

3. *Bridging.* All wood floor and roof beams shall be properly braced with cross bridging. The distance between bridging or between bridging and bearing shall not exceed eight feet.

4. *Anchoring.* a. Beams in walls. Each tier of beams shall be anchored to the walls at intervals of not more than six feet with approved steel or wrought iron anchors.

b. Beams on girders. The ends of wood beams resting upon girders shall be butted end to end and strapped by steel or wrought iron straps in the same beam as the wall

anchors, or they may lap each other at least 12 inches and be well spiked or bolted together where lapped.

c. Girders. Wood girders shall be anchored to the walls and fastened to each other by suitable steel or wrought iron straps.

d. Anchor strips. Each tier of wood beams running parallel to enclosing walls shall be anchored to such walls with approved anchor strips, and similarly to every pier.

5. *Fire prevention.* a. Trimming around flues. All wood beams shall be trimmed away from all flues and chimneys. The header and trimmer beams shall not be less than 4 inches from the outside face of the chimney. Any header beam supporting a trimmer arch in front of a fireplace shall be not less than 20 inches from the face of the chimney breast.

b. Separation in walls. Every wooden beam in any masonry or fire wall shall be separated from any other beam in the wall by at least four inches of solid masonry.

281 §281. **Wood columns and posts.** All wood columns and posts shall be squared at the ends perpendicular to their axes, and cap and base plates shall be provided. Where the cap plate of a wood column or post supports a wood girder, any column above shall bear directly on the cap and shall not rest on the girder. Additional iron or steel cheek plates shall be placed between the cap and base plates and bolted to the girders, when required to transmit the loads with safety.

282 §282. **Bolting.** All bolts in wood construction shall be provided with washers of such proportions that the compression on the wood at the face of the washer will not exceed the working stresses prescribed in this chapter.

283 §283. **Stud partitions.** Stud partitions which rest directly over each other and are not parallel with wood floor beams shall run down between the wood floor beams and rest on the top plate of the partition below, and shall have the studding filled in solid between the uprights to the depth of the floor beams with suitable incombustible materials.

284 §284. **Fire stops.** 1. *Studded-off spaces.* Where walls are studded-off, the space between the inside face of the wall and the studding directly over such space shall be fire-stopped with fireproof material, for a depth of not less than 4 inches, securely supported; or the beams directly over the studded-off space shall be deafened with not less than 4 inches of fireproof material.

2. *Wainscoting.* The surface of the wall or partition behind wainscoting shall be plastered flush with the grounds and down to the floor line.

Article 15

Iron and Steel Construction

(In Effect March 30, 1915)

§300. **Cast iron columns.**. 1. *Dimensions.* Cast iron columns shall not have a smaller outside diameter or side than 5 inches, nor shall they have an unsupported length greater than that allowed by §52 of this chapter. 300

2. *Thickness of metal.* The thickness of metal shall be not less than one-twelfth the diameter or least dimension of cross section, but never less than three-fourths of an inch. When necessary, the thickness shall be increased near the end so that the core of a column below a joint shall not be larger than the core of the column above, in which case the metal may be tapered down for a distance of not less than 6 inches; or a joint plate may be inserted of sufficient strength to distribute the load. Wherever the core of a cast iron column has shifted more than one-fourth the thickness of the shell, the thickness of the metal all around shall be assumed equal to the thinnest part.

3. *Workmanship.* a. Joints. Cast iron columns shall be machine faced at the end to a true surface perpendicular to the axis. They shall be bolted together with at least four bolts, not less than three-quarters of an inch in diameter, passing through the flanges, the bolts being of sufficient length to allow the nuts to be screwed up tightly; and as each column is placed in position, the bolts shall also be placed in position and the nuts shall be screwed up tightly.

b. Flanges. Where cast iron columns rest one on top of another, the top flange of the lower column shall project on all sides not less than three inches from the outer surfaces of the column, and the shape and dimensions of the

bottom flange of the upper column shall be the same as those of the top flange of the lower column, except that when a column is placed on a lot line, the flanges on the side toward such lot line may be omitted, if not required for bolting. Flanges shall be at least one inch in thickness when finished, and reinforced by fillets and brackets when necessary.

c. Bolt holes. All holes in cast iron columns shall be drilled. The diameter of the holes shall not exceed that of the bolts by more than one-sixteenth of an inch.

4. *Limitation.* Cast iron columns shall not be used in any case where the load is so eccentric as to cause tension in the cast iron. Nor shall they be used for such parts of the structural frame of buildings which are required to resist stresses due to wind.

5. *Inspection.* No cast iron column shall be set in place until it has passed an inspection satisfactory to the superintendent of buildings. Wherever blowholes or imperfections are found in a cast iron column which reduce the area of the cross section at that point more than 10 per cent. such columns shall be condemned. Cast iron columns not cast with one open side or back, shall have three-eighths inch holes drilled in the shaft, to exhibit the thickness of the castings, as may be required by the superintendent of buildings. Cast iron columns shall not be painted before inspection.

301 §301. **Steel columns.** 1. *Length.* No steel columns shall have an unsupported length greater than that allowed by § 52 of this chapter.

2. *Design.* No part of a steel column shall be less than one-quarter of an inch thick. No material, whether in the body of the column or used as a lattice bar or stay plate, shall be used of less thickness than one thirty-second of its unsupported width, measured between centers of rivets transversely, or one-sixteenth the distance between centers of rivets in the direction of the stress. Stay plates are to have not less than 4 rivets, and are to be spaced so that the ratio of length to the least radius of gyration of the parts connected does not exceed 40, the distance between nearest rivets of two stay plates in this case being considered as length. In built-up columns the thickness of any outstanding member shall not be less than one-twelfth the width of the outstanding portion.

3. *Joints.* The ends of all columns shall be faced to a plane surface at right angles to the axis of the columns. Wherever practicable the connection between them shall be made with splice plates. When splice plates cannot be used a connection formed of plates and angles, designed to properly distribute the stress, may be used. Where any part of

the section of a column projects beyond that of the column above or below, the difference shall be made up by filling plates secured to the column by the proper number of rivets. All column connections shall be riveted.

§302. **Column bases.** Whenever necessary to properly distribute the load, iron or steel shoes shall be used under the bottom tier of columns. Cast iron bases or shoes shall be not less than one inch thick in any part. If any side of the bed plate exceeds three feet in length, a reinforcing flange at least four inches high shall be provided around the outer edges. All cast iron bases or shoes shall be planed on top, and, when resting on steel girders, on both top and bottom. Bases or shoes of steel plates and shapes shall be designed to meet the requirements of § 301 of this chapter. Nothing in this section shall prevent iron or steel bases being made as a part of the columns. **302**

§303. **Lintels, beams and girders.** 1. *Cast iron lintels.* Cast iron lintels shall not be less than three-quarters of an inch in thickness at any point, and shall not be used for spans exceeding six feet. **303**

2. *Double beams as girders.* When rolled steel beams are used in pairs to form a girder, they shall be connected together by separators at intervals of not more than 5 feet. All beams 12 inches and over in depth shall have at least 2 bolts to each separator.

3. *Riveted girders.* The thickness of the web in riveted girders shall be not less than one-one hundred and twentieth of the distance between flange angles, and in no case less than one-quarter of an inch. If the unsupported depth of the web plate exceds 60 times its thickness, stiffeners shall be used at intervals not exceeding 120 times the thickness of the web. Stiffeners of sufficient strength shall also be provided over supports and under concentrated loads.

4. *Lateral bracing.* The compression flanges of steel beams and girders shall be secured against buckling, if the length exceeds twenty times their width unless the working stresses in such flanges are proportioned to the ratio of length to width as provided for steel columns in § 52 of this chapter.

§304. **Framing and connecting.** All columns, beams, trusses and all other iron or steel work shall be suitably framed and connected together and to the walls. All beams framed into and supported by other beams or girders shall be connected thereto by angles or knees of a proper size and thickness with sufficient bolts or rivets to transmit the entire load, or by seats of sufficient strength and the necessary **304**

angles or knees to hold the beam in place. Beams resting on girders shall be securely riveted or bolted to the same.

305 §305. Trusses. 1. *General design.* Trusses shall be of such design that the stresses in each member can be calculated.

2. *Lateral bracing.* All trusses shall be held rigidly in position by efficient systems of lateral or sway bracing.

3. *Tension members.* For tension members, the actual net area only, after deducting rivet holes one-eighth inch larger than rivets, shall be considered as resisting the stress.

4. *Compression members.* Compression members in pin-connected trusses shall be designed so that the stresses shall not exceed 75 per cent. of the permissible working stresses for columns.

5. *Eye bars.* The heads of all eye bars shall be made by upsetting or forging. No weld will be allowed in the body of the bar. Steel eye bars shall be annealed. Bars shall be straight before boring. Eyes and screw ends shall be so proportioned that upon test to destruction, fracture will take place in the body of the member.

6. *Pins.* All pins shall be accurately turned. All pin-holes shall be bored true and at right angles to the axis of the members, and must fit the pins within one-thirty-second of an inch.

306 §306. Riveting. 1. *When required.* All component parts of built-up columns, girders and trusses, including any splices in the same, shall be riveted.

2. *Spacing of rivets.* The pitch of rivets shall never be less than three diameters of the rivet, nor more than 6 inches. In the direction of the stress it shall not exceed 16 times the least thickness of the outside member. At right angles to the stress it shall not exceed 32 times the least thickness of the outside member.

3. *Distance from edge.* The distance from centre of a rivet hole to the edge of the material shall not be less than:

¾ of an inch for ½-inch rivets;
1 inch for ⅝-inch rivets;
1¼ inches for ¾-inch rivets;
1½ inches for ⅞-inch rivets;
1¾ inches for 1-inch rivets.

4. *Length.* The lengths of rivets, between heads, shall not exceed five times the diameters.

5. *Driving.* All shop rivets, wherever practicable, shall be machine driven. Rivets shall fill the holes completely. Rivet heads shall be hemispherical and concentric with the axis of the rivet.

§307. **Bolting.** 1. *When permitted.* Where riveting is not required by the provisions of this chapter connections may be effected by bolts, of mild steel, with United States standard threads. The threads shall be full and clean, the nut shall be truly concentric with the bolt, and the thread shall be of sufficient length to allow the nut to be screwed up tightly. 307

2. *Suspenders.* When the bolts are used for suspenders, the working stress shall be reduced to 9,000 pounds per square inch of net area, and the load shall be transmitted into the head or nut by suitable washers.

§308. **Tie rods.** Whenever tie rods may be required by the provisions of this chapter in connection with iron and steel construction they shall be at least three-fourths of an inch in diameter. Holes for tie rods in floor arches shall be placed as near the thrust of the arch as practicable. The distance between tie rods in floors or roofs shall not exceed 8 times the depth of the beams nor 8 feet in any case. 308

§309. **Templates.** When any lintel, beam, girder or truss is supported at either end by a wall or pier, it shall be properly anchored thereto and shall rest upon a template or shoe of cast iron, steel or stone of such design and dimensions as to safely distribute its load on the masonry, except that when beams, not exceeding 6 inches in depth, are placed not more than 30 inches on centres, no templates shall be required. 309

§310. **Protection against corrosion.** 1. *Painting.* All structural iron and steel work shall be cleaned of all scale, dirt and rust and be thoroughly coated with one coat of paint before erection, except that cast iron columns shall not be painted until after inspection. Where surfaces in riveted work come in contact, they shall be painted before assembling. After erection all work shall be painted at least one additional coat of a different shade than the first. 310

2. *Subaqueous work.* All iron or steel used under water shall be encased in concrete.

§311. **Protection against fire.** Any iron or steel construction hereafter placed in any building to support a wall or part thereof or a sidewalk, shall be protected with not less than two inches of fireproof material securely applied, except that in non-fireproof buildings such protection shall not be required for columns immediately above the sidewalk level supporting walls fronting on streets. 311

§312. **Metal fronts.** Metal fronts or facias hereafter erected on the exterior of buildings over one-story high shall be backed up or filled in with masonry not less than 8 inches thick. 312

313 §313. **Use of old materials.** Nothing in this article shall prevent the use of old steel or wrought iron shapes, provided that the working stresses used do not exceed three-fourths of those specified in this chapter for steel, and that the provisions of this article are otherwise complied with.

Article 16

Reinforced Concrete Construction

(In Effect October 6, 1915)

330 §330. **Definitions.** For the purposes of this article:

a. Reinforced concrete means any construction in accordance with the provisions of this article, of approved concrete in which steel is imbedded in such a manner as to increase its strength;

b. The span of beams and slabs means the distance from centre to centre of supports, but not necessarily exceeding the clear span plus the depth of beam or slab, provided that brackets shall not be considered as reducing the clear span;

c. The length of columns means the maximum unsupported length;

d. The effective area of a concrete column with lateral reinforcement means the area of concrete within the hoops or bands.

331 §331. **Application.** Reinforced concrete may be used for all types of construction, provided the material and design conform to the requirements of this article and such rules as may be adopted by the superintendent of buildings to secure safety in construction and uniformity in practice.

332 §332. **Concrete.** 1. *Mixture.* The concrete for reinforced concrete structures shall consist of a wet mixture of one part of Portland cement to not more than six parts of aggregate, fine and coarse, either in the proportion of one

part of cement, two parts of fine aggregate and four parts of coarse aggregate, or in such proportion that the resistance of the concrete to crushing shall not be less than two thousand pounds per square inch after hardening for twenty-eight days.

2. *Aggregate.* a—Fine. Fine aggregate shall consist of sand, crushed stone or gravel screenings, passing when dry a screen having one-quarter-inch diameter holes, and not more than six per cent. passing a sieve having one hundred meshes per lineal inch, and of such quality that mortars composed of one part Portland cement and three parts fine aggregate by weight when made into briquettes will show a tensile strength of at least two hundred and forty pounds per square inch at twenty-eight days.

b—Coarse. Coarse aggregate shall consist of crushed stone or gravel which is retained on a screen having one-quarter-inch diameter holes and graded in size from small to large particles. The maximum size shall be such that all the aggregate will pass through a one-and-one-quarter-inch diameter ring. All aggregate shall be clean, hard, durable, and free from deleterious material.

§333. **Reinforcement.** The steel reinforcement shall conform to such requirements as may be adopted by the superintendent of buildings, or, in the absence of such requirements, to the standard specifications of the American Society for Testing Materials for steel reinforcement bars. Nothing herein contained shall prevent the use of steel wire or fabric for the reinforcement of slabs, for lateral reinforcement of columns, or for resistance to shrinkage and temperature stresses. **333**

§334. **Working stresses.** Reinforced concrete structures shall be so designed that the stresses in pounds per square inch shall not exceed the following: **334**

Extreme fibre stress on concrete in compression...	650
Concrete in direct compression.....	500
Shearing stress in concrete when all diagonal tension is resisted by steel.....	150
Shearing stress in concrete when diagonal tension is not resisted by steel.....	40
Bond stress between concrete and plain reinforcement	80
Bond stress between concrete and approved deformed bars	100
Tensile stress in steel reinforcement.....	16,000
Tensile stress in cold drawn steel wire or fabric, 35 per cent. of the elastic limit but not more than.....	20,000

In continuous beams the extreme fibre stress on concrete in compression may be increased fifteen per cent. adjacent to supports.

The ratio of the moduli of elasticity of 1 : 2 : 4 stone or gravel concrete and steel shall be taken as one to fifteen. The ratio of the moduli of elasticity of 1 : 1½ : 3 stone or gravel concrete and steel shall be taken as one to twelve.

335 §335. **Slabs and beams.** 1. *Thickness.* Slabs shall not be less than four inches in thickness for floors and three and one-half inches for roofs.

2. *Tee-beams.* Where adequate bond between slab and web of beam is provided, the slab may be considered as an integral part of the beam provided its effective width shall not exceed on either side of the beam one-sixth of the span length of the beam nor be greater than six times the thickness of the slab on either side of the beam, the measurements being taken from edge of web.

3. *Placing of reinforcement.* All reinforcement shall be accurately located and secured against displacement. The reinforcement for slabs shall not be spaced farther apart than two and one-half times the thickness of the slab.

4. *Web reinforcement.* Members of web reinforcement shall be so designed as to adequately take up throughout their length all stresses not taken up by the concrete. They shall not be spaced to exceed three-fourths of the depth of the beam in that portion where the web stresses exceed the allowable value of concrete in shear. Web reinforcement, unless rigidly attached, shall be placed at right angles to the axis of the beam and carried around the tension members.

336 §336. **Use of fillers in floor construction.** When hollow tile, concrete blocks or other acceptable fillers are used in any reinforced concrete floor construction, the reinforced concrete members of such floor construction shall be designed in accordance with the provisions of this article to take the entire loads, provided, however, that when the fillers do not exceed sixty per cent. of the construction, not more than two and one-half inches of concrete shall be required over the fillers.

337 §337. **Columns.** 1. *With longitudinal reinforcement only.* In concrete columns, having not less than one-half nor more than four per cent. of vertical reinforcement secured against displacement by one-quarter-inch steel ties placed not farther apart than fifteen diameters of the vertical rods nor more than twelve inches, the allowable load shall be five hundred pounds per square inch on the concrete, plus seven thousand five hundred pounds on the vertical reinforcement.

2. *With longitudinal and lateral reinforcement.* In concrete columns, having not less than one-half nor more than two per cent. of hoops or spirals spaced not farther apart than one-sixth of the diameter of the enclosed column nor more than three inches, and having not less than one nor more than four per cent. of vertical reinforcement, the allowable load shall be five hundred pounds per square inch on the effective area of the concrete, plus seven thousand five hundred pounds per square inch on the vertical reinforcement, plus a load per square inch on the effective area of the concrete equal to two times the percentage of lateral reinforcement multiplied by the tensile stress in the lateral reinforcement prescribed by § 334 of this article, the percentage of lateral reinforcement being the volume of the hoops or spirals divided by the volume of the enclosed concrete in a unit length of column. The hoops or spirals shall be rigidly secured to at least four verticals to insure uniform spacing.

3. *Structural steel and concrete.* In columns of structural steel, thoroughly encased in concrete not less than four inches thick and reinforced with not less than one per cent of steel, the allowable load shall be sixteen thousand pounds per square inch on the structural steel, the percentage of reinforcement being the volume of the reinforcing steel divided by the volume of the concrete enclosed by the reinforcing steel. Not more than one-half of the reinforcing steel shall be placed vertically. The reinforcing steel shall not be placed nearer than one inch to the structural steel or to the outer surface of the concrete. The ratio of length to least radius of gyration of structural steel section shall not exceed one hundred and twenty.

4. *When richer concrete is used.* In concrete columns the compression on the concrete may be increased twenty per cent. when the fine and coarse aggregates are carefully selected and the proportion of cement to total aggregate is increased to one part of cement to not more than four and one-half parts of aggregate, fine and coarse, either in the proportion of one part of cement, one and one-half parts of fine aggregate and three parts of coarse aggregate, or in such proportion as will secure the maximum density. In such cases, however, the compressive stress in the vertical steel shall not exceed seven thousand two hundred pounds per square inch.

5. *Eccentric loads.* Bending stresses due to eccentric loads shall be provided for by increasing the section of concrete or steel until the maximum stress shall not exceed the allowable working stress.

6. *Length.* In columns, the ratio of length to least side

or diameter shall not exceed fifteen, but in no case shall the least side or diameter be less than twelve inches.

338 §338. **Walls.** Enclosure walls of reinforced concrete shall be securely anchored at all floors. The thickness shall not be less than one-twenty-fifth of the unsupported height, but in no case less than eight inches. The steel reinforcement, running both horizontaally and vertically, shall be placed near both faces of the wall; the total weight of such reinforcement shall be not less than one-half pound per square foot of wall.

339 §339. **Protection of reinforcement.** The reinforcement in columns and girders shall be protected by a minimum of two inches of concrete; in beams and walls by a minimum of one and one-half inches; in floor slabs by a minimum of one inch; and in footings by a minimum of four inches of concrete.

340 §340. **Load tests.** The builder may be required to make load tests on any portion of a reinforced concrete structure within a reasonable time after erection. The tests shall be made under the direction of the superintendent of buildings, and shall show that the construction will sustain safely a load of one and three-quarters times the live load for which it was designed.

341 §341. **Rules.** The rules governing reinforced concrete in building construction, heretofore adopted by the superintendent of buildings, so far as they are consistent with the provisions of this article, shall remain effective until amended or repealed by the superintendent of buildings.

Article 17

Fireproof Construction

(In Effect October 6, 1915)

350 §350. **Walls.** The exterior walls or piers of fireproof buildings shall be approved masonry or reinforced concrete.

351 §351. **Iron and steel construction.** 1. *General.* All metal structural members which support loads or resist

stresses, in fireproof buildings, shall be entirely encased in fireproofing material securely applied as hereinafter specified.

2. *Columns.* a. In exterior walls. Iron or steel colmuns placed within exterior walls or along the outer lines of a building shall be encased with approved masonry not less than eight inches thick on their outer and side surfaces, nor less than four inches thick on their inner surfaces.

b. Interior. Iron and steel columns used in the interior of a building shall be encased on all sides with fireproofing materials not less than two inches thick.

c. Lugs and brackets. The extreme outer edges of lugs, brackets or other supporting parts of columns shall not extend nearer than one inch to the outer surface of the fireproof casing.

d. Protection to fireproofiing. Where the fireproofing of columns is exposed to damage from trucking or handling of merchandise, the superintendent of buildings may require such fireproofing to be jacketed for a height of three feet from the floor with a protective covering.

3. *Beams and girders.* Iron or steel beams and girders shall be entirely encased in fireproofing materials not less than two inches thick at any point when supporting a wall or part thereof or a sidewalk, and not less than one and one-half inches thick in any case.

4. *Lintels.* a. Iron or Steel. Iron or steel lintels over openings in walls shall be encased as required for beams, provided that when the span of any such opening does not exceed four feet or such opening is spanned by an adequate masonry arch above the lintel the fireproofiing may be omitted.

b. Stone. Stone lintels shall not be used in fireproof buildings unless supplemented on the inside of the wall with iron or steel lintels, or with suitable masonry arches.

5. *Trusses.* a. General. All members of steel trusses, except roof trusses hereinafter specified, shall be entirely encased in fireproofing materials not less than two inches thick at any point.

b. Roof trusses. The fireproofing herein required for trusses may be omitted when such trusses support only roof loads and ceilings over interior open spaces having a clear height of at least twenty feet below the lower chords of the trusses. In such cases the fireproofing may also be omitted from the soffits of roof beams or purlins.

6. *Fireproofing materials.* The fireproofing required by this section shall consist of any of the following materials:

a. Bonded brickwork laid in cement mortar;

b. Concrete consisting one part Portland cement, and not more than two parts of sand and four parts of gravel, stone or other approved aggregate that will pass through a three-quarter inch ring, suitably reinforced with wire or metal fabric;

c. Cinder concrete consisting of one part Portland cement and not more than two parts of sand and five parts of clean, well-burned steam boiler cinders, suitably reinforced with wire or metal fabric;

d. Porous or semi-porous terra cotta blocks with shells and webs at least one inch thick, laid in cement mortar, thoroughly bonded or secured by metal ties;

e. Solid gypsum blocks, containing not more than twenty-five per cent. by weight of cinders, asbestos fibre, wood chips or vegetable fibre, laid in gypsum plaster or cement mortar, thoroughly bonded or secured by suitable galvanized metal ties or fabric; or

f. Any material or form of construction that will resist the action of flame and a heat of seventeen hundred degrees Fahrenheit for at least two hours, without raising the temperature of the material to be protected above five hundred and fifty degrees Fahrenheit by transmission through a thickness of two inches as determined by test prescribed in the rules adopted by the superintendent of buildings.

7. *Prohibition.* No pipes, wires, cables or other material shall be embedded in the required fireproofing of columns or other structural members.

352 §352. **Masonry.** Interior walls, piers, arches and vaultings that support loads in addition to their own weight in fireproof buildings shall be constructed of approved masonry, except that stone masonry shall not be used for such purpose, or for columns or lintels unless supplemented by other approved masonry or by properly protected iron or steel construction.

353 §353. **Reinforced concrete.** Reinforced concrete construction conforming with the requirements of article 16 of this chapter shall be deemed fireproof construction.

354 §354. **Floors and roofs.** 1. *General.* The filling between steel floor and roof beams in fireproof buildings shall consist of arches or slabs of brick, terra cotta, stone concrete or cinder concrete, constructed as hereinafter specified, or of such other material or construction as may be approved by the superintendent of buildings as conforming to the requirements of the fire and strength tests hereinafter prescribed.

2. *Brick arches.* When brick is used as floor filling it shall consist of segmental arches having a thickness of not

less than four inches for spans of five feet or less, and of not less than eight inches for spans exceeding five feet. Such arches shall be built of good, hard common or hollow brick, laid to a line and solidly bonded. Each longitudinal line of brick shall break joints with the adjoining lines. The arches shall spring from suitable skewbacks, and shall be properly keyed. The rise shall be not less than one inch for each foot of span. The brick shall be well wet before laying, and the joints filled solid with cement mortar.

3. *Terra cotta arches.* a. Material. When terra cotta is used as floor filling it shall consist of hollow blocks, either hard burned or semi-porous, of uniform density and hardness. The thickness of shells and webs of each block shall be not less than five-eighths of an inch. Interior vertical and horizontal webs of arch blocks shall not be spaced more than four inches apart. The skewbacks shall be of such form and section as to accurately fit the beams and properly receive the thrust of the arches. The arch blocks shall be laid in cement mortar and properly keyed.

b. Segmental arches. When terra cotta filling is segmental in form the blocks shall be not less than six inches in depth with at least two cellular spaces in such depth. The rise of such arches shall be not less than one inch for each foot of span.

c. Flat arches. When terra cotta filling is in the form of flat arches, the depth of the blocks, unless reinforced with steel, shall be not less than one and one-half inches for each foot of span between the steel beams, exclusive of the portion of the block projecting below the underside of the beams.

d. Strength of terra cotta arches. Terra cotta filling shall be so designed that it will safely sustain the superimposed loads by increasing so far as may be necessary the depth and the thickness of shells and webs of the blocks. When such filling is reinforced by wire fabric, steel rods or other steel shapes, thoroughly embedded in Portland cement mortar and bonded to the terra cotta, the strength of the construction may be determined by accepted engineering formulae. For the purposes of this section, the working stresses, in pounds per square inch, shall be taken at 500 for terra cotta in compression, 16,000 for steel in tension, and 100 for bond between steel and mortar and between terra cotta and mortar.

4. *Concrete floor arches.* a. Material. When concrete is used as floor filling it shall consist of one part of Portland cement, and not more than two parts of sand and five parts of stone, gravel or cinders, reinforced in the case of slab construction with steel as herein provided. The stone or

gravel shall be as required for reinforced concrete in article 16 of this chapter. Cinders shall be clean, well burned steamboiler cinders.

b. Reinforcement. When reinforcement is required it shall consist of steel rods or other suitable shapes, or steel fabric. The tensional reinforcement in any case shall be not less than twelve hundredths per cent. in the case of cold drawn steel fabric, nor less than twenty-five hundredths per cent. in the case of other forms, the percentage being based on the sectional area of slab above the center of the reinforcement. The center of the reinforcement shall be at least one inch above the bottom of the slab, but in no case shall any part of the reinforcement come within five-eighths of an inch from the bottom of the slab.

c. Segmental form. When the concrete floor filling is used in the form of segmental arches, the thickness shall be at least four inches at the crown. Such arches shall have a rise of not less than one inch for each foot of span.

d. Flat construction. When the concrete floor filling is in the form of slabs the thickness shall be not less than four inches, except as otherwise provided in this article for special roof construction.

e. Strength of concrete slabs. In determining the safe carrying capacity of concrete slab floor fillings the gross load in pounds per square foot of floor surface shall not exceed the product of the depth in inches of the reinforcement below the top of the slab, by the cross-sectional area in square inches per foot of width of the tensional steel, divided by the square of the span in feet, all multiplied by the following co-efficients when cinder concrete is used: 14,000 if the reinforcement is not continuous over the supports, 18,000 if the reinforcement consists of rods or other shapes securely hooked over or attached to the supports, and 26,000 if the reinforcement consists of steel fabric continuous over the supports, and, when stone concrete is used, 16,000, 20,000 and 30,000, respectively.

In determining the safe carrying capacities of concrete floor fillings segmental in form, the compressive stress in pounds per square inch in the concrete shall not exceed 300 for cinder concrete or 500 for stone concrete.

Nothing in this section shall prevent the determination of the safe carrying capacity of any form of concrete floor filling approved as fireproof under the provisions of this article, by the usual methods of calculation, provided the stresses used, in pounds per square inch, shall not exceed 300 for cinder concrete in compression, 16,000 for steel in tension, and 50 for bond between cinder concrete and steel, or in the case of stone concrete, the values fixed by article 16.

5. *Test of floor fillings.* a. Fire tests. In testing the fireproof qualities of any floor filling, at least one panel of the proposed maximum span, carrying a live load of at least one hundred and fifty pounds per square foot, shall be subjected to a fire continuous for four hours at an average temperature of seventeen hundred degrees Fahrenheit, followed by an application for not less than ten minutes of a hose stream from a one and one-eighth inch nozzle at sixty pounds nozzle pressure, without appreciable deterioration or the passage of flame through the floor during the test.

b. Load tests. When the strength of any floor filling cannot be determined by the methods prescribed in this section or by the application of accepted engineering formulae the safe uniformly distributed carrying capacity shall be taken as one-sixth of the total load causing failure in a full-sized construction with the load applied at two points each at one-third of the span from the ends of the span.

6. *Special roof construction.* For mansards and dormers, roofs of bulkheads and roofs having a pitch of more than thirty degrees with the horizontal, blocks of terra cotta, stone or cinder concrete, or gypsum containing not more than twenty-five per cent. by weight of cinders, asbestos fibre, wood chips or vegetable fibre, not less than two inches thick, resting on steel shapes spaced not more than one foot for each inch of thickness in the block may be used instead of the construction prescribed by this section for floors and roofs.

7. *Tie rods.* The supporting beams in fireproof floors and roofs shall be tied together by steel tie rods of proper size, spacing and location, within the limitations fixed by § 308 of this chapter, provided that when the floor filling is in the form of reinforced slabs and the reinforcement is continuous over the supports or securely attached to the same the rods may be omitted.

8. *Span of floor filling.* In fireproof buildings the span of any floor filling shall not exceed eight feet except when reinforced concrete or reinforced terra cotta is used.

9. *Top filling.* In fireproof buildings the space between the floor filling and the flooring shall be filled with concrete, consisting of one part of cement and not more than ten parts of cinders, or with other incombustible material approved by the rules of the superintendent of buildings.

10. *Cutting floors.* After the floor filling is completed no opening greater than two square feet shall be cut through said floors unless suitable metal framing or reinforcing is provided around the opening. When pipes or conduits pass through floor fillings the openings around the same shall

be filled in solidly with fireproof material unless approved close fitting individual sleeves, with the space around the sleeves filled solidly with incombustible material, are provided.

355 §355. **Partitions.** 1. *Materials.* Except as otherwise provided in this section or in article 18 of this chapter, partitions hereafter erected in fireproof buildings shall be constructed of the materials and in the manner herein specified:

a. Brick in cement mortar;

b. Concrete, consisting of one part Portland cement and not more than three parts of sand and six parts of stone or gravel, not less than three inches thick if properly reinforced with steel, nor less than four inches thick otherwise;

c. Cinder concrete, consisting of one part Portland cement and not more than three parts of sand and six parts of cinders, not less than four inches thick if properly reinforced with steel, nor less than five inches thick otherwise;

d. Hollow terra cotta blocks, laid in cement mortar, not less than three inches thick;

e. Hollow concrete blocks, of either stone or cinder concrete, laid in cement mortar, not less than three inches thick;

f. Solid or hollow blocks consisting of gypsum containing not more than twenty-five per cent. by weight of cinders, asbestos fibre, wood chips or vegetable fibre, laid in gypsum plaster or cement mortar tempered with lime, not less than three inches thick;

g. Metal lath on a steel studding covered with Portland cement mortar or gypsum plaster, of a finished thickness of not less than two inches in the case of solid partitions, nor less than three inches in the case of hollow partitions; or

h. Any material or form of construction that may be approved by the superintendent of buildings as conforming to the requirements of the fire test hereinafter prescribed.

But nothing in this section shall prevent the erection, in the discretion of the superintendent of buildings, of partitions of pressed metal and glass or of temporary partitions of wood and glass within rooms or spaces enclosed by fireproof partitions or walls.

2. *Construction.* Unless built as approved masonry walls, partitions in fireproof buildings shall be independently supported at each floor. They shall be keyed, or otherwise securely fastened to the ceilings, and, when necessary, shall be stiffened with suitable steel uprights securely fastened to floor and ceiling. Partitions enclosing hallways or toilet rooms and other permanent partitions shall not rest on wood flooring but shall start on the fireproof construction of the floor.

3. Tests of fireproof partitions. In testing the fireproof qualities of any partition construction a vertical panel not less than fourteen feet long and nine feet high shall be subjected to a fire continuous for not less than one hour at an average temperature of seventeen hundred degrees Fahrenheit during the latter half hour, followed by an application for not less than two and one-half minutes of a hose stream from a one and one-eighth inch nozzle at thirty pounds nozzle pressure, without the passage of flame during the test.

§356. Interior finish.. 1. *General restrictions.* Except as hereinafter otherwise permitted no woodwork or other combustible material shall be used in the floors, ceilings, partitions, furrings or other interior finish of fireproof buildings. **356**

2. *Woodwork permitted.* a. Floor sleepers, door bucks and grounds may be of wood provided that they are not exposed on any side; but this shall not permit the use of anything but metal lath, metal furring or forms of metal in ceilings or in ornamental plastering work.

b. When the height of the building does not exceed one hundred and fifty feet the doors and windows and their frames, the trim, casings and other interior finish when filled solid at the back with fireproof material, and the flooring may be of wood.

3. *Restrictions in buildings over one hundred and fifty feet high.* When the height of the building exceeds one hundred and fifty feet:

a. The flooring shall be of incombustible material, or of fireproofed wood, provided that in public halls and stairways no wood of any kind, except for handrails, shall be used;

b. The inside window frames and sash, doors, trim and other interior finish shall be of metal or wood covered with metal, or of fireproofed wood, or of any incombustible materails or any combination of materials that will show a fire resistance not less than that of fireproofed wood.

4. *Fireproofed wood.* The superintendent of buildings shall adopt rules prescribing the tests to which fireproofed wood and incombustible materials or any combination of materials shall be subjected. Such rules shall also provide for the inspection of the materials, to insure the installation of tested and approved materials only. No wood or other material required to be tested, shall hereafter be placed in any building exceeding one hundred and fifty feet in height except in conformity to the requirements of this section.

§357. Exterior windows. When the height of a fireproof building exceeds one hundred and fifty feet, all exterior window frames and sash shall be of metal, or of wood **357**

covered with metal in the manner prescribed by the rules of the superintendent of buildings.

358 §358. Approvals. 1. *Existing approvals continued.* Any material or form of construction coming under the provisions of this article and heretofore approved may be used for the purposes for which it was approved, except so far as it may be inconsistent with specific provisions of this article.

2. *New materials and constructions.* Approvals for new materials and forms of construction shall be issued in accordance with the provisions of § 22 of this chapter. Nothing in this chapter shall prevent the superintendent of buildings from accepting duly authenticated tests by any competent person, in lieu of the tests under his own supervision, provided the intent of this article is secured.

Article 18

Safeguards against Spread of Fire
(In Effect February 9, 1916)

370 §370. Definitions. For the purpose of this chapter:

a. A fire wall is any wall built for the purpose of restricting the area subject to the spread of fire;

b. A fire partition is a sub-dividing partition built for the purpose of protecting life by providing an area of refuge;

c. A shaft is an enclosed space extending through one or more stories of a building connecting a series of two or more openings in successive floors, or floors and roof;

d. An open shaft is one that extends through the roof of a building and is open to the outer air at the top;

e. A vent shaft is one used solely to ventilate or light, or both, one or more water-closet compartments or bathrooms;

f. An elevator shaft is one that encloses any device used for carrying persons or things upward or downward;

g. A dumbwaiter shaft is an elevator shaft which has a cross-sectional area at any point of nine square feet or less and in which the device is used only for the carrying of things;

h. The term "self-closing," as applied to a fire door or other opening protective, means closing automatically after having been opened for use;

i. The term "automatic," as applied to a fire door or other opening protective, means normally held in an open position and automatically closing by the action of some releasing device.

§371. **Fire walls.** 1. *Construction.* Fire walls shall be constructed of approved masonry or reinforced concrete of the thicknesses prescribed by this chapter for the exterior walls of the building in which it is erected, but if hollow terra cotta blocks are used they shall be filled solidly with concrete. In non-fireproof buildings fire walls shall be continuous from the foundation to the roof and provided above the roof with a parapet wall, as specified in § 259 of this chapter. **371**

2. *Opening.* No opening in a fire wall shall exceed eighty square feet in area, and the aggregate width of all openings at any level shall not exceed twenty-five per cent. of the length of the wall, except that in the first story of buildings equipped throughout with an approved system of automatic sprinklers larger openings and a greater percentage of wall length may be used by the special written permission of the superintendent of buildings, stating the reason for such allowance. Every opening in a fire wall shall be protected on each side of the wall with an approved automatic fire door. When any fire wall serves also as a fire partition it shall have no openings other than door openings not exceeding forty-eight square feet in area, and one of the automatic fire doors at each opening shall be replaced by a self-closing fire door.

§372. Fire partitions. 1. *Construction.* Fire partitions shall be constructed of the materials and in the manner herein specified, as follows: **372**

a. Approved masonry;

b. Any form of fireproof partition, constructed as required in § 355 of this chapter, provided (1) that such partition is supported on each story on fireproof construction,

(2) that, unless otherwise approved after the three hours fire test herein provided, the thicknesses are not less than eight inches for brick, not less than six inches for stone or cinder concrete, or hollow blocks of terra-cotta, concrete or gypsum, and not less than four inches for stone or cinder concrete if properly reinforced with steel,

(3) that, unless constructed of expanded metal or wire lath and cement mortar of a finished thickness of not less than two and one-half inches, metal lath construction shall not be used, and,

(4) that all openings in partitions of hollow building blocks, gypsum or metal lath construction, shall be adequately reinforced with steel; or,

c. Any material and form of construction that may be approved by the Superintendent of Buildings as conforming to the requirements of the fire test prescribed in subdivision 3, § 355 of this chapter, provided, however, that for fire partitions the duration of such test shall be not less than three hours and that such partition shall be supported at each story on fireproof construction.

2. *In non-fireproof buildings.* In non-fireproof buildings fire partitions, if required in any story, shall be continuous through all stories from the foundation to the roof, provided that if any of the floors of the building are of fireproof construction for their full extent and all stairways are enclosed in approved fireproof construction, fire partitions shall be required to be continuous only from one such fireproof floor to another or to the roof. Any such fire partition shall be deemed continuous, even though the several parts are not directly over one another in successive stories, if the intervening parts of the floors at the levels where offsets occur, are of fireproof construction and all parts not supported directly on the foundations are carried on fireproof construction. Fire partitions shall be carried at least three feet above any non-fireproof roof.

3. *Openings.* Fire partitions shall have no openings other than the required door openings. No such door opening shall exceed forty-eight square feet in area. If more than one door opening is required, the distance, measured along the line of the fire partition, between any door and the next one shall not be more than sixty feet. Every opening in a fire partition shall be protected by an approved self-closing fire door.

373 §373. **Shafts.** 1. *When required.* Unless otherwise specially provided by any other law or ordinance, shafts as in this section described and specified shall be provided in all fireproof and non-fireproof buildings for every series of floor openings, except stairways, hereafter placed or constructed in any such building, whether for air, light, elevator or any other purpose, or hereafter altered so as to enlarge any of such openings, or to change their use. The provisions of this section shall not, however, be taken to apply to ducts permitted by Article 19 of this chapter.

2. *Open shafts.* All open shafts hereafter placed in any building shall be constructed of approved masonry or reinforced concrete, and of the thicknesses required for exterior walls, provided that for shaft walls not exceeding ten feet in

length the thickness may be reduced to not less than eight inches for the uppermost forty feet and four inches more for each lower section of forty feet.

3. *Shafts exceeding nine square feet in area.* Except as hereinafter provided in this section, all shafts hereafter erected in any building and having a cross-sectional area at any point within the enclosing walls of more than nine square feet, and all existing shafts hereafter enlarged so that the cross-sectional area at any point exceeds nine square feet shall be constructed in the manner and of the material and thicknesses prescribed in subdivision 1, § 372 of this article for fire partitions, or subdivision 2 of this section for open shafts.

4. *Shafts not exceeding nine square feet in area.* All shafts hereafter erected in any building and having a cross-sectional area at any point of nine square feet or less, except as hereafter provided in this section, shall be constructed of approved masonry, reinforced concrete, or any material or form of construction, not less than two inches thick, permitted under the provisions of § 355 of this chapter as permanent fireproof partitions, set in a steel frame of proper strength or suitably reinforced with metal dowels, or in such other manner as may be approved by the Superintendent of Buildings.

5. *Elevator shafts in existing residence buildings.* In existing residence buildings which have not more than fifteen sleeping rooms any elevator shaft hereafter erected, when the available space does not permit of the construction required by subdivision 3 of this section, may be constructed as required by subdivision 4 of this section.

6. *Non-fireproof shafts.* Vent shafts hereafter erected in non-fireproof residence buildings, when extending through not more than one story in height, carried not less than three feet above the roof and covered with a ventilating skylight of metal and glass, and dumbwaiter shafts hereafter erected that do not extend more than three stories above the cellar or basement in residence buildings occupied by not more than two families or having not more than fifteen sleeping rooms, may be built of wood filled in solidly with brick or other approved incombustible material, or covered on the inside with plaster on plaster board or metal lath, or with sheet metal not less than one-sixteenth of an inch in thickness, provided that the part of any such dumbwaiter shaft which extends into the cellar shall be enclosed in eight-inch brick walls.

7. *Existing elevators.* In every non-fireproof public building all elevators not already enclosed in fireproof shafts shall

be enclosed in walls constructed and arranged as in this section required for elevator shafts.

8. *Existing dumbwaiter shafts.* Any existing dumbwaiter shaft which extends into the cellar or basement, except such as do not extend more than three stories above the cellar or basement in residence buildings, shall be enclosed in the cellar or basement with walls of brick eight inches thick or other fireproof construction approved by the superintendent of buildings, unless already enclosed in some form of construction conforming to the requirements of subdivision 4 of this section.

9. *Openings.* a. In open shafts having a cross-sectional area at any point of thirty-six square feet or less, hereafter erected or altered, all openings shall be protected with fire doors, fire shutters or fire windows.

b. In vent shafts, hereafter erected or altered, except non-fireproof vent shafts, all openings shall be provided with fire windows.

c. In elevator shafts hereafter erected or materially altered all door openings shall be protected by fire doors. No other openings shall be provided in such shafts, except window openings to the outer air.

d. In dumbwaiter shafts hereafter erected or altered, there shall be no openings other than door openings protected with self-closing fire doors.

e. All other shafts not provided for in this subdivision, hereafter erected or altered, shall have all openings protected with self-closing fire doors.

10. *Enclosure at top.* All shafts hereafter erected or altered to extend into the top story of any non-fireproof building shall be carried through and not less than three feet above the roof. Every shaft extending above the roof, except open shafts, shall be enclosed at the top with a roof of fireproof construction and a metal skylight of at least three-fourths the area of the shaft in the top story, except that the skylight herein required may be replaced by a window of equivalent area in the side of the shaft provided the sill of such window is not less than three feet above the roof and the window does not face a property line within ten feet. Any shaft that does not extend into the top story of the building shall have the top enclosed with fireproof construction.

11. *Enclosure at bottom.* The bottom of every shaft, hereafter erected or altered, except vent shafts, shall be enclosed with fireproof construction.

12. *Elevator machinery compartment.* When any compartment which contains machinery for operating an elevator

communicates with an elevator shaft it shall be enclosed with partitions of the same materials and construction as required for the shaft, and shall have fire doors on the openings.

13. *Number of elevators restricted in shaft.* Not more than two elevators shall be placed hereafter in any one shaft, and where there are only two elevators in any building they shall be placed in separate shafts.

§374. **Existing hoistways.** 1. *Gates and trapdoors.* 374
In any existing building in which there shall be any hoistway, elevator or wellhole not already inclosed in walls constructed of brick or other fireproof material and provided with fireproof doors, the openings thereof through and upon each floor of said building shall be provided with and protected by substantial guards or gates and with such good and sufficient trap-doors as may be directed and approved by the superintendent of buildings. When, in the opinion of the superintendent of buildings, automatic trap-doors are required to the floor openings of any uninclosed elevator, the same shall be constructed so as to form a substantial floor surface when closed, and so arranged as to open and close by the action of the elevator in its passage either ascending or descending.

2. *Enforcement of section.* Except as otherwise provided by law or ordinance, the superintendent of buildings shall have power and authority to require the openings of hoistways, elevators and wellholes in buildings to be enclosed or secured by trap-doors, guards or gates and railings.

3. *Guards, gates and trap-doors to be closed when not in use.* All guards or gates required by this section shall be kept closed at all times, except when in actual use, and the trap-doors shall be closed at the close of the business of each day, by the occupant or occupants of the building having the use or control of the same.

§375. **Protection of exterior openings.** 1. *When required.* 375
Every window or other opening above the first story in the exterior walls of every fireproof and non-fireproof business building, more than forty feet in height, shall, except as may be otherwise specifically provided in this chapter or by any other law or ordinance, be protected by a fire door, fire window, fire shutter, open sprinkler or other approved protective when such opening is distant in a direct line less than thirty feet from any opening in any other building and not in the same plane with said opening, or when said opening is not more than fifty feet above a neighboring roof.

2. *Fire shutters to be readily opened.* When fire shutters are used in exterior openings at least one row in every three vertical rows of shutters on front window openings shall be arranged to be readily opened from the outside. Distinguishing marks, satisfactory to the fire commissioner, shall be provided on these shutters.

3. *Openings to fire escapes.* When fire doors or fire shutters are used on exterior openings leading to fire escapes or exterior exits of any kind they shall be so arranged as not to obstruct such fire escape or exit.

4. *Vertical separation of windows.* In fireproof and non-fireproof business buildings hereafter erected, over forty feet in height, exterior openings above the second story that are located vertically above one another and that do not require any protective under this section, shall have not less than three feet of solid masonry between the top of one opening and the bottom of the one next above, and no such opening shall be arranged, to open within one foot of the ceiling of the story in which it is located, provided, however, that part of such masonry between openings may be replaced by wire glass in fixed metal sash and frame.

5. *Closing protectives.* All fire doors, fire shutters and fire windows on exterior openings, unless provided with approved automatic closing devices operative from either side, shall be closed when not required to be open, and at the close of business each day by the occupant or occupants of the building having the use or control of them.

376 §376. **Protectives for openings.** 1. *Construction.* All opening protectives required or permitted under this chapter shall be constructed as prescribed in such rules, consistent with the provisions of this chapter, as may be promulgated by the superintendent of buildings, or, in the absence of such rules, as specified in the standard requirements of the National Board of Fire Underwriters; or they may be constructed in any manner and of any material that will comply with the fire test hereinafter prescribed.

2. *Fire test.* In testing the fireproof qualities of any opening protective a complete sample of the device of the maximum size to be approved, constructed and installed in every respect as in actual service, shall be subjected to a fire on one side, continuous for not less than one hour, at a temperature, in the case of fire doors and fire shutters increasing gradually from that of the outer air to eighteen hundred degrees Fahrenheit within the first half-hour and to two thousand degrees Fahrenheit during the second half-hour, and, in the case of fire windows, increasing gradually from that of the outer air to fifteen hundred degrees Fahrenheit

within the hour, without permitting the passage of flame or the transmission of heat to a dangerous extent.

3. *Use of wire glass.* When wire glass is required or permitted by this chapter or the rules authorized thereunder, for fire doors, fire shutters or fire windows, the panes shall not exceed seven hundred and twenty square inches in area, and shall not be less than one-quarter inch in thickness, and shall be set not less than five-eighths of an inch in the frame. When the use of glass is permitted in any fire door or fire shutter only wire glass shall be used. For the glazing of fire window only wire glass shall be used.

Article 19

Chimneys and Heating Apparatus.
(In Effect February 9, 1916)

§390. **General.** 1. *Definitions.* For the purposes of this chapter: **390**

a—a chimney is that part of a building which contains one or more flues for transmitting the products of combustion from some fireplace or heating device to the outer air, and includes the fireplace when there is one;

b—a flue is a passage, enclosed on all sides with solid masonry or reinforced concrete and used only for the transmission of air, whether fresh, heated, or vitiated, or of the products of combustion from solid fuel or liquid fuel, and designated respectively vent flue or smoke flue;

c—a duct is a passage constructed of sheet metal or other approved incombustible material, and used only for the transmission of air, whether fresh, heated or vitiated;

d—a smoke pipe is a passage constructed of metal and used as an intermediate connection between a heat producing

device and a chimney or metal stack for the transmission of the products of combustion.

2. *Notice of installation.* In case heat producing appliances or furnaces are hereafter placed in any building, or flues and fireplaces are installed, changed or enlarged, and such installation or alteration necessitates any change in any structural parts of the building, due notice shall be given to the superintendent of buildings by the person doing such work or causing the same to be done, and a permit secured from him if necessary.

391 §391. **Heat producing devices.** For the purposes of this chapter, heat producing devices shall be graded as:

a—low, including bakers' ovens; boiling vats; candy furnaces; clay, coke and gypsum tripoli kilns; coffee roasting ovens; cooking ranges; core ovens; cruller furnaces; drying furnaces for spent materials; feed drying ovens; fertilizer drying ovens; forge furnaces; gas producers; gypsum kilns; hardening furnaces (below dark red); hot air engine furnaces; hot air heating furnaces; hot water and low pressure steam heating boilers; japanning ovens; ladle drying furnaces; lead melting furnaces; nickel plate furnaces; paraffine furnaces; rendering furnaces; rosin melting furnaces; stereotype furnaces; sulphur furnaces; typefoundry furnaces; wood drying furnaces; wood impregnating furnaces;

b—medium, including alabaster gypsum kilns; charcoal furnaces; direct fire heated feed driers; direct fire heated fertilizer driers; direct fire heated pulp driers; galvanizing furnaces; glass factory lehrs and glory holes; hardening furnaces (cherry to pale red); lime kilns; porcelain biscuit kilns; smoke houses; steam boilers, other than low pressure heating boilers; water-glass kilns; wood-distilling furnaces; wood-gas retorts;

c—high, including annealing furnaces; bessemer retorts; billet and bloom furnaces; blast furnaces; bone calcining furnaces; brass furnaces; carbon point furnaces; cement, brick and tile kilns; coal and water gas retorts; cupolas; earthenware kilns; gas blow furnaces; glass smelting furnaces; glass kilns; open hearth furnaces; ore roasting furnaces; porcelain baking and glazing kilns; pot-arches; puddling furnaces; regenerative furnaces; reverberatory furnaces; stacks, carburetor or super-heating furnaces in water gas works; welding furnaces; wood carbonizing furnaces.

In doubtful cases the superintendent of buildings shall by a rule designate the grade of any heat producing device, being governed in doing so by the degree and amount of heat transmitted.

§392. **Chimneys.** 1. *Construction.* Except as in this article otherwise provided, every chimney hereafter erected shall be of brick or stone laid in cement mortar, or of reinforced concrete, extending above the highest point of the roof and at least four feet above the highest point of contact with the roof. Every chimney shall be properly capped with terra cotta, stone, cast iron or other approved incombustible, weatherproof material, except that on buildings forty feet or less in height the top courses of a brick chimney may be finished off by being carefully bonded and anchored together to serve as coping.

2. *Supports.* All chimneys shall be wholly supported by stone, brick or self-supporting fireproof construction. No chimney shall rest or be built upon any wood construction.

3. *Flues for low grade devices.* The smoke flues of stoves, cooking ranges, hot air, hot water and low pressure steam heating furnaces, and all other heat producing devices graded as low, shall be encased in brickwork or concrete not less than eight inches thick, except that for smoke flues exclusively used for ordinary stoves, ranges or open fireplaces when no combustible studding, furring or sheathing is placed against it, such brickwork or concrete may be reduced to not less than four inches. In chimneys of stone, the stone work of such flues shall be four inches thicker than required for brick. Every flue coming under the provisions of this subdivision hereafter erected shall be lined with well-burnt terra cotta pipe, from the bottom of the flue, or from the throat of the fireplace if the flue starts from a fireplace, for the entire height of the chimney. Such lining pipes shall be built in as the flues are carried up, laid end to end in cement mortar so as to make a smooth flue. Where two or more smoke flues are contained in the same chimney, the withes shall be either brick not less than four inches thick, or concrete or grout not less than one inch thick, provided, however, that every third withe shall consist of brick.

4. *Flues for medium grade devices.* The smoke flues of high pressure steam boilers, smoke houses and all other heat producing devices graded as medium shall be encased in brickwork or concrete not less than eight inches thick, or stonework not less than twelve inches thick, and in addition, shall be lined with not less than four inches of fire brick, laid in fire mortar, for a distance of at least twenty-five feet from the point where the smoke connection of the device enters the flue.

5. *Flues for high grade devices.* The smoke flues of cupolas, brass furnaces, porcelain baking kilns and all other heat producing devices graded as high shall be built with double walls, each not less than eight inches in thickness.

with an air space of not less than two inches between them. The inside of the interior walls shall be of firebrick not less than four inches in thickness.

6. *Certain flues required.* In every building hereafter erected exceeding forty feet in height, where one or more smoke flues start from the cellar or lowest story, at least one such flue shall have an internal cross-sectional area of not less than ninety-six square inches and shall start not less than three feet below the ceiling. No flue hereafter erected shall have smoke-pipe connections in more than one story of a building.

7. *Flues to be clean and chimneys safe.* Upon the completion of any new building or an alteration in any flues of an existing building, the flues shall be properly cleaned and left smooth on the inside. Any chimney which shall be dangerous in any manner whatever shall be repaired and made safe, or taken down.

8. *Unlawful use of flues.* It shall be unlawful to use as a smoke flue any flue hereafter erected or placed in any building, or any flue now existing and not already used as a smoke flue, unless it conforms to the requirements of this section. Nothing in this article, however, shall prevent the use of approved metal flue linings for the repair or alteration of flues in residence buildings.

9. *Raising adjoining chimneys.* a. Whenever a building, wall or structure is hereafter erected, altered, enlarged or raised so that any of the walls, whether independent or party, along a property line or within three feet thereof, extends above the top of any chimney, smoke flue or smokestack of an adjoining building or structure, the owner of the building, wall or structure so erected, altered, enlarged or raised, shall, at his own expense, carry up, either independently or in his own building, wall or structure, all chimneys, smoke flues and smokestacks of such adjoining building or structure within ten feet of any portion of the said wall extending above such chimney, flue or stack. The construction of such chimneys, flues or stacks shall conform to the requirements of this article applying thereto, but in no case shall the internal area of any flue or stack as raised be less than that of the existing flue or stack. All such chimneys, flues or stacks shall be carried above the walls in question to the heights prescribed, and shall, furthermore, be so constructed, supported and braced as to be at all times safe.

b. It shall be the duty of the owner of the building, wall or structure to be erected, altered, enlarged or raised to notify in writing, at least ten days before such work is begun, the owner of the chimneys, flues or stacks affected, of

his intention to carry up such chimneys, flues or stacks as herein provided, and unless released in writing he shall carry up such chimneys, flues or stacks simultaneously with the walls.

§393. **Fireplaces.** 1. *Firebacks.* The firebacks of all fireplaces hereafter erected shall be not less than eight inches in thickness of solid masonry. A lining of firebrick or other approved material at least two inches thick shall be provided unless the fireback is twelve inches in thickness. 393

2. *Trimmer arches.* All fireplaces and chimney breasts where mantels are placed, whether intended for ordinary fireplace use or not, shall have trimmer arches or fireproof construction supporting hearths. The arches and hearths shall be at least twenty inches in width measured from the face of the chimney breast. Trimmer arches shall be of brick, stone, terra cotta or reinforced concrete. The length of the trimmer arch shall not be less than the width of the chimney breast, and the length of the hearth shall be not less than the width of the mantel. The hearths shall be of brick, stone, tile or other approved fireproof material. The combined thickness of trimmer arch and hearth shall at no point be less than six inches. Wood centres under trimmer arches shall be removed before plastering the ceiling underneath.

3. *Heaters.* No heater shall be placed in a fireplace which does not conform to the foregoing requirements of this section.

4. *Mantels.* No wood mantel or other woodwork shall be hereafter placed within eight inches on either side nor within twelve inches of the top of any open fireplace. If a coal-burning heater of the Baltimore type is placed in a fireplace, any mantel that may be provided shall be of incombustible material. No combustible summer piece or fireboard shall be used in connection with any open fireplace. All spaces back of combustible mantels shall be solidly filled in with incombustible material.

5. *False fireplaces.* False fireplaces using summer pieces or fireboards shall not be placed in any building except against an unfurred masonry wall or a fireproof partition.

§394. **Metal smokestacks.** 1. *Construction.* Metal smokestacks must be so constructed that they will be securely supported and that the materials entering into their construction or serving as support shall not be stressed beyond the working stresses fixed by this chapter. The metal work must be riveted and of adequate thickness, but not less than No. 16 U. S. gage when the cross-sectional area is one hundred and fifty-four square inches or less, not less than 394

No. 14 U. S. gage when the cross-sectional area is more than one hundred and fifty-four square inches and not more than two hundred and one square inches, not less than No. 12 U. S. gage when the cross-sectional area is more than two hundred and one square inches but not more than two hundred and fifty-four square inches, and not less than No. 10 U. S. gage when the cross-sectional area is more than two hundred and fifty-four square inches. All metal work shall be painted; galvanized metal shall not be used. Clean-out openings shall be provided at the base of every such stack.

2. *Height.* All such stacks serving high grade heat producing devices shall extend to a height of not less than ten feet above the highest point of any roof within twenty-five feet.

3. *Independent stacks.* All such stacks hereafter erected, outside and independent of any building, shall be supported on substantial masonry foundations, so designed that the maximum pressure on the soil shall not exceed two-thirds of that prescribed in § 231 of this chapter.

4. *Exterior stacks.* Any such stacks, or any part thereof, hereafter erected on the immediate exterior of the building it serves shall be braced to such building at least every twenty feet. It shall have a clearance of not less than four inches from the walls of a fireproof or non-fireproof building and not less than twenty-four inches from the walls of a frame building; and a clearance of not less than twenty-four inches in any direction from any wall opening, fire escape or other exit facility, unless such stack is insulated in some approved manner, in which case the clearances herein provided may be reduced an amount fixed by the superintendent of buildings when approving the insulation.

5. *Interior stacks.* Any such stack, or part thereof, hereafter erected within any building shall be enclosed in walls of approved masonry; or, if in a fireproof building, such stack, or part thereof, shall be enclosed in walls of brick, terra cotta blocks or concrete not less than eight inches thick, with a space left between the stack and the enclosing walls sufficient to render the entire stack accessible for examination and repair. The enclosing walls shall be without openings above the story at which it starts.

6. *Prohibition.* Smokestacks shall not be carried up inside of vent stacks or flues connected to ranges, unless such vent stacks or flues are constructed as required by this article for smokestacks or smoke flues.

395 §395. **Cupola chimneys.** Chimneys or cupola furnaces, blast furnaces and similar devices shall extend at least twenty feet above the highest point of any roof within a

radius of fifty feet thereof and be covered on the top with heavy wire netting or other approved spark arrester. No woodwork shall be within three feet of any part of such device or its chimney.

§396. **Underground flues.** Underground smoke flues shall be covered with at least twelve inches of solid masonry, or an approved equivalent insulation. If clean-out openings are installed they shall be provided with approved double iron doors or covers, of which the two parts are twelve inches apart, with the intervening space filled with insulating material. No combustible flooring shall be laid over any such flues. **396**

§397. **Ranges.** 1. *Kitchen ranges.* When fixed ranges are to be installed in any building hereafter erected trimmer arches extending beyond such ranges not less than six inches on all sides shall be provided unless the floor is of fireproof construction. No such range shall be placed against a stud partition, a furred wall or any other combustible construction. When any such range is to be placed within twelve inches of a wood stud partition the said partition shall be shielded with metal from the floor to a height of not less than three feet higher than the range, provided that when the range is within six inches of the partition the studs shall be cut away and framed three feet higher and one foot wider than the range and filled in to the face of the said stud partition with brick or fireproof blocks. **397**

2. *Hoods over ranges.* All hoods and ducts for same placed over hotel or restaurant ranges shall be constructed of incombustible materials and installed in accordance with the requirements of § 403 for smokepipes.

§398. **Drying rooms.** Drying rooms hereafter placed within any building as a part of the building shall be constructed entirely of incombustible materials. When the heating pipes are not placed overhead, they shall be so shielded as to preserve at all times a clear space of not less than two inches between them and the contents. All such drying rooms shall be ventilated directly to the outer air by vent flues or ducts installed as specified in § 403 of this article for smoke pipes. **398**

§399. **Smoke houses.** All smoke houses hereafter erected as part of any building shall be of fireproof construction with walls of brick or reinforced concrete. All openings shall be provided with fire doors. The interior framing, racks, hangers and other interior fittings shall be of incombustible materials. **399**

§400. **Registers.** All registers used in any hot-air furnace heating system, placed in any woodwork or combustible floor, shall rest upon stone or iron borders firmly set in **400**

plaster of paris or gauged mortar. All register boxes used in any such heating system shall be made of tin plate or galvanized iron with a flange to fit the rabbet in the border. The register box shall be enclosed in a tin or galvanized iron casing turned under the border and spaced at least two inches from the sides of the box. Such casing shall extend from the border to and through the ceiling below in the case of a floor register and through the partition in the case of a wall register. When a register box is placed in the floor over a portable furnace, the space on all sides between the casing and the register box shall be not less than four inches. Every hot-air furnace shall have at least one register without valve or louvres.

401 §401. **Vent flues.** Flues hereafter erected for the removal of foul air or the transmission of heated air shall be encased in masonry not less than four inches thick and shall be lined with terra cotta or other approved incombustible material. Not more than one gas burner shall be directly connected to any flue, nor shall any such device be connected to any flue used as a smoke flue. Any flue to which a gas burning device is direct-connected shall be constructed as required in § 392 for a smoke flue.

402 §402. **Ducts.** 1. *General.* Except as may be otherwise specifically permitted or prescribed, the transmission of air through buildings for heating or ventilation shall be by means of ducts constructed as in this section provided.

2. *Casing.* No casing, furring or lath of wood shall be placed against or cover a duct of any kind; but this shall not prevent the placing of woodwork on a covering over such ducts, of metal lath and plaster, plaster board or asbestos, provided the thickness of the covering is not less than seven eighths of an inch.

3. *In partitions.* Ducts hereafter placed in combustible partitions shall be covered with one-half inch of corrugated asbestos or shall be constructed double with a one-half inch air space. The asbestos covering or outside pipe shall be not less than one and one-half inches away from the woodwork. In lieu of the above protection, four inches of brick work or concrete may be placed between the duct and the woodwork.

4. *In floors.* Ducts hereafter placed between the flooring and ceiling of non-fireproof floors, shall be constructed double with a one-inch air space. The outside pipe shall be not less than two inches from any woodwork, which shall be covered with metal.

5. *In closets.* Ducts hereafter placed in closets or similar concealed spaces shall be double with a one and one-half

inch air space, or shall be covered with approved incombustible insulation, not less than one inch thick. When constructed double the outside pipe shall be not less than No. 18 U. S. gage, and not less than one inch from any woodwork.

6. *Passing through partitions and floors.* Ducts hereafter placed to pass through combustible partitions or floors shall be constructed double, with a one and one-half inch air space open at one end, or shall be covered with approved incombustible insulation not less than one inch thick.

7. *Horizontal ducts.* Ducts used for hot-air furnace heating, hereafter placed under cellar ceilings, shall be at least six inches below wood floor beams, wood lath and plaster ceiling or other combustible materials; but if such combustible construction is protected by metal lath and plaster, plaster board or one-half inch asbestos the distance may me not less than three inches.

8. *Cold air ducts.* The cold air ducts of any heating system shall be of metal or other approved fireproof material.

9. *Hot air ducts.* No hot-air furnace duct shall be placed in any floor, partition or enclosure, of combustible construction, unless it be at least eight feet distant in a horizontal direction from the furnace.

§403. **Smoke pipes.** 1. *Restriction.* No smoke pipe shall pass through any floor, nor through any non-fireproof roof. 403

2. *Clearance.* The clear distance between any smoke pipe or metal breeching and any combustible material or construction shall be not less than eighteen inches in the case of low grade heat producing devices, nor less than thirty-six inches for medium or high grade heat producing devices, except that, when such smoke pipes or breechings are protected with not less than two inches of asbestos or in some other approved manner, such clearances may be reduced one-half, and that, in the case of smoke pipes used on ordinary ranges and stoves in tenements or other residence buildings having not more than fifteen sleeping rooms, such clearances may be not less than nine inches when the combustible material or construction is protected by one-half inch asbestos or its equivalent, nor less than eighteen inches when not so protected.

3. *Protection through partitions.* Smoke pipes from ordinary ranges and stoves in residence buildings may pass through combustible partitions, provided every such pipe is guarded by a double metal ventilated thimble twelve inches larger in diameter than the pipe, or by a metal tube built in brickwork or other approved fireproof materials, not less than eight inches thick on all sides of the tube.

404 §404. **Steam and hot water pipes.** 1. *Protection.* Steam or hot water pipes shall not be placed nearer than one inch to any woodwork unless the woodwork is covered with metal, in which case the distance shall be not less than one-half inch. Every steam or hot water heating pipe passing through a combustible floor or partition shall be protected by a metal tube one inch larger in diameter than the pipe. Any such pipe passing through stock shelving shall be covered with not less than one inch of approved insulation. All wood boxes or casings inclosing steam or hot water heating pipes, or wood covers to recesses in walls in which such pipes are placed, shall be lined with metal.

2. *Pipe coverings.* Any coverings or insulation used on steam or hot water pipes shall be of incombustible material.

Article 20

Roofing and Roof Structures
(In Effect February 9, 1916)

420 §420. **General.** Except when otherwise specifically provided for in this chapter, all construction, other than water tanks, hereafter placed above the roof of any part of any building within the fire limits or of any building more than forty feet in height outside the fire limits, shall be of incombustible materials.

421 §421. **Roofing.** 1. *Materials.* Except as otherwise in this chapter specifically provided, every roof hereafter placed on any building or part thereof, shall be covered with an approved roofing of brick, concrete, tile, slate, metal, asbestos slag, gravel, or other approved incombustible material.

2. *Planking.* When wood planking or sheathing is permitted in roof construction, it shall not, in any case, extend across any side or party walls.

3. *Repairs.* No roofing on any existing roof shall be renewed or repaired, except in conformity with the requirements of this section, provided, however, that when the

renewal or necessary repairs do not constitute more than one-fourth of the roofing in any one roof surface, the new work may be made to conform to the existing roofing.

§422. **Cornices and gutters.** 1. *Construction.* All cornices inclusive of those on show windows, and gutters, hereafter placed on the exterior of any building except buildings that are permitted to be of frame construction, shall be of incombustible materials. When constructed of sheet metal they shall be riveted in the seams at intervals of not more than five inches. Cornices shall be secured to the walls with metal framing or anchors, spaced not more than four feet apart, and extending not less than four inches into the wall at top and bottom. 422

2. *Repairs.* All cornices or gutters that may now be or that may hereafter become unsafe shall be taken down, and if replaced, shall be constructed to conform to the requirements for new cornices, except that when any such cornice or gutter is not damaged to a greater extent than one-half, it may be repaired with the same material as originally constructed.

§423. **Leaders.** All buildings shall be provided with proper leaders for conducting water from the roofs. In no case shall the water from leaders be allowed to flow upon the sidewalk, but it shall be conducted by pipe or pipes to the sewer. If there be no sewer in the street then the water from the leader shall be conducted by proper pipe or pipes, below the surface to a street gutter, or to a cesspool. 423

§424. **Skylights.** 1. *Construction.* All skylights hereafter placed in any building, shall have the sashes and frames thereof constructed of metal, except that skylights in foundries or buildings where acid fumes are present as an incident to the occupancy of the building may be of wood in the discretion of the superintendent of buildings. The frames and other parts of metal skylights shall be riveted or otherwise securely fastened, in addition to soldering, and shall be securely anchored to the supporting structure. 424

2. *Glazing.* Skylights placed over shafts of any kind shall be glazed with plain glass not less than three-sixteenths of an inch in thickness. No pane of glass in any such skylights hereafter placed in any building shall exceed seven hundred and twenty square inches in area.

3. *Protection.* Every skylight in which plain glass is used shall be protected by a wire screen placed not less than four inches nor more than ten inches above the glazed portion of the skylight at all points. Such screen shall be not lighter than No. 12 U. S. gauge, shall have a mesh of not less than three-fourths of an inch nor more than one

inch, shall extend beyond the glazing on all sides a distance not less than the height of the screen above the glazing. When any such skylight is located over any passageway or any room of public resort a similar screen shall also be placed below the skylight.

425 §425. **Scuttles.** Unless provided with some other means of access to the roof, every building more than fifteen feet high, except dwellings with peak roofs, shall have in the roof a scuttle, with a substantial iron ladder leading thereto. All scuttles shall be covered on the top and edges with sheet metal or other approved incombustible material. The scuttle openings shall be at least two feet by three feet in size.

426 §426. **Roof houses.** 1. *Definitions.*

a. The term bulkhead as used in this section includes all such enclosed structures above the roof of any part of a building as enclose only stairways, tanks, elevator machinery or ventilating apparatus, or shafts.

b. The term pent house as used in this section means any enclosed structure, other than a bulkhead, extending not more than twelve feet above a roof.

2. *Bulkheads.* The walls of any bulkhead hereafter erected on any roof of a fireproof building, shall be constructed as required for fire partitions by subdivision 1, section 372 of this chapter. Such walls may be used as bearing walls of the bulkhead roofs when they do not exceed fifteen feet in height and thirty-five feet in length, and the roof span does not exceed twelve feet. The roofs of such bulkheads shall be of fireproof construction as provided by section 354 of this chapter. The walls and roofs of all bulkheads, unless constructed of approved masonry, shall be covered on the outside with incombustible, weatherproof material.

3. *Pent houses.* Every pent house shall be considered a story of the building and, except as may be otherwise specifically provided by law, its construction shall conform to the requirements for buildings of a height to which such pent house is carried; provided that when any exterior wall of such pent house sets back not less than five feet from the exterior walls of the next lower story of the building it may be constructed of brick not less than eight inches thick, or hollow building blocks not less than six inches in thickness, covered on the outside with incombustible weatherproof material, and supported by steel or reinforced concrete girders.

4. *Doors and windows.* All doors and door frames in the exterior walls of bulkheads or pent houses shall be metal or metal covered wood. All windows in bulkheads

or pent houses, except where otherwise specifically provided for, shall be constructed as other windows of the building similarly located.

5. *Sun parlors.* Nothing in this section shall prevent the erection on any roof of any building, of sun parlors or rooms for similar purposes, provided that only incombustible materials are used in the construction, and the floor of such structure is constructed as required for the roof of the building

§427. **Slanting roofs.** 1. *Construction.* Every mansard or other slanting roof having a pitch of more than sixty degrees, hereafter placed on any non-fireproof building over forty feet high, shall be constructed fireproof as specified in Section 354 of this chapter. 427

2. *Dormer windows.* Every dormer window hereafter erected shall be constructed in the same manner as the roof on which it is placed. The sides and top shall be covered with any of the materials approved for roofing.

§428. **Tanks.** 1. *Supports.* Tanks of more than 500 gallons capacity hereafter placed in or on any building shall be supported on masonry, reinforced concrete or steel construction of sufficient strength and carried to a proper foundation. 428

2. *Emergency outlet.* Every such tank shall have in the bottom or on the side near the bottom, a pipe or outlet, not less than four inches in diameter, fitted with a suitable quick-opening valve for discharging the contents in an emergency.

3. *Location.* Such tanks shall not be placed over nor near a line of stairs or an elevator shaft, unless there is a solid roof or floor underneath the tank.

4. *Covers.* All unenclosed roof tanks shall have covers with proper slope.

5. *Hoops.* When hoops are used in the construction of tanks they shall be of metal round in section.

§429. **Cooling towers.** Cooling towers hereafter erected above any roof shall be of incombustible material, except the drip bars, which may be of wood. 429

Article 21

Miscellaneous Requirements

(In Effect March 7, 1916)

440 §440. **Cellar ceilings.** In any building hereafter erected, or altered so as to change its occupancy, except one story buildings outside of the fire limits and buildings occupied exclusively for residence purposes by one or two families, the wood beams over the cellar, or over the lowest story, if such story is partly below the curb or the surrounding ground level, when the curb level has not been established, shall be covered with metal lath and plaster, plaster board and plaster, or other approved incombustible material.

441 §441. **Cellar floors.** In all buildings hereafter erected the cellar floor or any floor resting directly on the ground shall consist of 1 : 3 : 6 stone or cinder concrete not less than four inches thick.

442 §442. **Cellar partitions.** In all non-fireproof buildings, except buildings occupied exclusively for residence purposes by one or two families, permanent partitions in the cellar, or in any story more than half below the curb, shall be constructed of incombustible materials, unless such partitions enclose only coal or wood bins and do not extend to the ceiling.

443 §443 **Waterproofing.** In all buildings hereafter erected, the exterior walls below the ground level and floors below the curb level resting directly on the ground, shall, when required, be waterproofed in accordance with the rules adopted by the superintendent of buildings.

444 §444. **Floor lights.** Floor lights shall be constructed of metal frames and bars or plates, reinforced concrete or other approved incombustible materials. If any glass in same measures more than sixteen square inches, it shall be provided with a mesh of wire either in the glass or under the same. Floor lights shall be of the same strength as the floors in which they are placed. Glass shall not be less than three-quarters of an inch in thickness.

445 §445. **Cutting beams.** No beams shall be cut or pierced in any manner that would cause the beam to be of insufficient strength for its load.

446 §446. **Bay and show window construction.** Bay windows and show windows that extend beyond the exterior walls, hereafter constructed or placed on any fireproof or non-fireproof building, shall be constructed of incombustible materials and in such manner as will meet with the approval of the superintendent of buildings.

ARTICLE 22

Frame Buildings

(In Effect February 9, 1916)

§470. **Height.** Except as may be otherwise specifically provided in this chapter, or in the rules authorized thereunder, no frame building or structure hereafter erected or enlarged shall exceed forty feet in height. **470**

§471. **Area.** 1. *Building area.* No frame building hereafter erected or enlarged shall exceed five thousand square feet in area. **471**

2. *Plot area.* The combined area of frame buildings, sheds and outhouses located on any lot or plot shall not exceed eighty per cent. of the area of that part of the lot or plot which is not already covered by fireproof or non-fireproof buildings.

§472. **Frame construction.** The wood frame work of all frame buildings, hereafter erected, shall consist of sills, posts, girts and plates of suitable size and materials with proper mortise and tenon framing and braced with studs at all angles, but this shall not prohibit the use of balloon framing with proper sills and ribbon strip provided diagonal sheathing is used. Floor and roof beams and rafters shall be not less than two inches in thickness. No part of the wood frame work shall be built below the ground level. **472**

§473. **Filling in walls.** 1. *Independent walls.* Any exterior wall of frame construction, hereafter erected within three feet of a side or rear line of the lot or plot on which it is located, or hereafter erected as the side wall of any frame tenement house, shall have the spaces between the studding filled in solidly with brickwork or other approved incombustible material. **473**

2. *Party walls.* Every party wall of frame construction hereafter erected shall have the studding filled in solidly with

brickwork or other approved incombustible material not less than four inches thick. Every interior wall of frame construction extending from front to rear without openings and dividing the building into separate and distinct parts, shall have the studding filled in solidly with brickwork or other approved incombustible material.

3. *Extent of filling.* The filling herein required in exterior or party walls of frame construction shall in all cases be carried up from the ground to the under side of the roof boards.

474 §474. **Roofing.** 1. *Within the fire limits.* Any roofing hereafter placed on any frame building within the fire limits shall be of approved incombustible materials, provided that any existing shingle roof may be repaired at any time to an extent of not more than twenty-five per cent. of its surface.

2. *Outside of fire limits.* Nothing in this chapter shall prevent the use of wood shingles outside the fire limits on any building which, under the provisions of this chapter, is permissible of frame construction.

475 §475. **Towers.** 1. *On residence buildings.* Outside of the fire limits towers, turrets or minarets of frame construction may be erected on frame buildings occupied or used exclusively as residence buildings, provided they do not extend more than ten feet above the limiting height for frame buildings and do not cover an aggregate area of more than fifteen per cent. of the roof area of the building, and that the greatest horizontal dimension of any one tower, turret or minaret is not more than fifteen feet.

2. *Church spires.* Outside of the fire limits and the suburban limits, towers or spires of frame construction may be erected on frame buildings occupied or used exclusively as churches or other places of worship, provided they do not exceed a height of seventy-five feet above the curb or ground level.

3. *Covering.* All towers or other structures provided for in this section shall be covered on the exterior with approved incombustible roofing.

476 §476. **Piazzas.** Within the fire limits and the suburban limits, piazzas or balconies of wood may be erected on residence buildings having not more than fifteen sleeping rooms, provided they do not exceed twelve feet in width, and do not extend more than three feet above the second story floor beams. The roofs of all such piazzas or balconies shall be covered with incombustible material.

477 §477. **Minor structures.** 1. *Sheds.* Within the fire limits and the suburban limits sheds, open on at least one

side, may be erected of wood, but such sheds shall not exceed fifteen feet in height, shall not cover an area exceeding twenty-five hundred square feet, shall not be placed nearer than four feet to any lot line, and shall be covered on the sides and roof with incombustible materials.

2. *Outhouses.* Outhouses of wood to be used exclusively for privies, or for the storage of coal or wood for domestic purposes, may be erected on the lot with any residence building within the fire limits or the suburban limits, provided they do not exceed eight feet in height, or one hundred and fifty square feet in area, and have the roofs covered with incombustible materials.

3. *Builders' shanties.* One-story buildings for the use of builders in connection with any building operation for which a permit has been issued, may be constructed of wood and placed on the lot or plot where such building operation is carried on, or on adjoining lots or plots if they do not interfere with the safe occupancy of any buildings thereon, or on the sheds which may be required or provided over the sidewalks in front of such building operation.

4. *Fences.* Fences of wood within the fire limits or the suburban limits shall not exceed twelve feet in height.

§478. **Temporary structures.** 1. *Meaning.* Temporary structures shall be taken to mean platforms, reviewing stands, gospel tents, circus tents and other structures that are erected to serve their purpose for a limited time. **478**

2. *Permit.* Temporary structures shall not be erected until a permit, specifying the purpose and the period of maintenance, shall have been obtained from the superintendent of buildings.

3. *How located.* Within the fire limits or the suburban limits no temporary structure which is enclosed in any manner shall be placed on any lot nearer than four feet to the lot line.

4. *Removal.* Every temporary structure shall be removed at the expiration of the period for which the permit was issued, unless such permit is renewed.

5. *Unlawful use.* It shall be unlawful to use any temporary structure for any other purpose than that designated in the permit.

§479. **Miscellaneous frame structures.** Frame structures which are of an unusual character and to which the provisions of this chapter do not directly apply, including among others, buildings for fair and exhibition purposes, towers for observation, amusement devices, greenhouses and lumber sheds, and temporary structures of any kind shall be erected in conformity to such rules, consistent with the **479**

provisions of this chapter and securing the general intent thereof, as may be adopted by the superintendent of buildings.

480 §480. **Permissible alterations.** 1. *Application.* Subject to the requirements of this chapter as to construction, occupancy and location, any existing frame building within the fire limits or the suburban limits occupied exclusively as a residence building and having not more than fifteen sleeping rooms, may be altered and enlarged of frame construction as hereafter specified in this section, provided that no such building shall be altered or enlarged to be used for any other purpose.

2. *Raising in height.* a. Any such building situated in a row of frame buildings may be increased in height to conform to the height of adjoining buildings.

b. Any such building already exceeding twenty-five feet in height, that has a peaked roof, may be raised for the purpose of making a flat roof thereon, provided that the new roof is covered with incombustible material, and that, when so raised, the building shall not exceed forty feet in height to the highest part thereof.

c. Nothing in this section shall prohibit one-story and basement residence buildings from being increased one additional story in height.

3. *Extensions.* a. Any such building may be extended either on the front or rear to a depth of not more than fifteen feet and not more than the width of the building and not more than two stories and basement in height.

b. If any such building has an extension of less width than the main building the same may be increased in width to the full width and height of the main building.

4. *Bay windows.* Any such building may have bay windows of wood placed on any story, the roofs of which may be covered with the same material as the roof of the main building, except when such a bay window would increase the width of the building to more than eighty-five per cent. of the width of the lot.

481 §481. **Use of masonry walls.** In case approved masonry or reinforced concrete is used for the exterior walls of any building which under the provisions of this chapter is permitted to be of frame construction, nothing in this chapter shall prohibit all other parts of the building from being constructed as though the entire building were of frame construction.

Article 23

Buildings of a Public Character

(In Effect March 30, 1915)

§490. **Public safety.** In all buildings of a public character, such as hotels, churches, theatres, restaurants, railroad depots, public halls, and other buildings used or intended to be used for purposes of public assembly, amusement or instruction, and including department stores and other business and manufacturing buildings where large numbers of people are congregated, the halls, doors, stairways, seats, passageways and aisles, and all lighting and heating appliances and apparatus shall be arranged as the superintendent of buildings shall direct, to facilitate egress in cases of fire or accident, and to afford the requisite and proper accommodation for the public protection in such cases. **490**

§491. **Aisles and passageways.** All aisles and passageways in said buildings shall be kept free from camp stools, chairs, sofas and other obstructions, and no person shall be allowed to stand in or occupy any of said aisles or passageways during any performance, service, exhibition, lecture, concert, ball or any public assemblage. **491**

§492. **Enforcement of article.** The superintendent of buildings may at any time serve a written or printed notice upon the owner, lessee or manager of any of said buildings, directing any act or thing to be done or provided in or about the said buildings and the several appliances therewith connected, such as halls, doors, stairs, windows, seats, aisles, fire walls, fire apparatus and fire-escapes, as he may deem necessary. **492**

§493. **Exemptions.** Nothing herein contained shall be construed to authorize or require any other alterations to theatres existing prior to June 9, 1885, than are specified in this article. **493**

Article 24

Motion Picture Theatres

(In Effect March 30, 1915)

500 §500. **Plans.** Before the erection, construction or alteration of a building or part thereof, to be used as a motion-picture theatre, as defined in § 30 of chapter 3 of this ordinance, there must be filed with the appropriate superintendent of buildings complete plans and the detailed statement of the specifications therefor, required by § 3 of this chapter. The plans must show clearly and fully the location and width of all aisles, passageways, exits, stairways and fire escapes; the arrangement of seats; the size of floor beams, walls and supports; the location and construction of the enclosure for the motion-picture machinery and other apparatus; a diagram of the lot or plot upon which the theatre is to be erected or constructed, showing the outlets from all exits, and also such other statements, plans and details as may be required by the superintendent of buildings having jurisdiction.

501 §501. **Restrictions.** No motion picture theatre, as defined aforesaid, shall be constructed in a frame building within the fire limits, nor in a hotel, tenement house or lodging house, nor in a factory or workship, except where the theatre is separated from the rest of the building by unpierced fire walls and floors, and in no case shall such a theatre be constructed or operated above or below the ground floor of any building.

502 §502. **Construction.** In all motion-picture theatres, as defined aforesaid, to be hereafter constructed, the following requirements shall be complied with, namely:

1. *Ceilings.* The ceilings of all theatres and of all rooms used in connection therewith shall be plastered with 3 coats of first class plaster on wire mesh or metal lath, or covered with ½-inch plaster boards, and plastered or covered with metal. If there be a basement or cellar, the ceiling under the floor of the theatre must be plastered with 3 coats of first class plaster on wire mesh or expanded metal lath, or may be covered with metal on ½-inch plaster boards.

2. *Floor-loads.* The flooring of that portion of the building devoted to the uses or accommodation of the public must be of sufficient strength to bear safely a live load of 90 pounds per square foot.

3. *Galleries and stairways.* A gallery may be permitted, except in a theatre constructed on a lot less than 20 feet in width, but it shall not include more than 25 per cent. of the total seating capacity of the theatre. Entrance to and exit from the gallery shall in no case lead to the main floor of the theatre, and the gallery shall be provided with a stairway or stairways equipped with handrails on both sides. Stairways over 7 feet wide shall be provided with centre

handrails. The risers of the stairways shall not exceed 7¾ inches, and the treads, excluding nosings, shall not be less than 9½ inches. There shall be no circular or winding stairways. The total width of the stairways shall not be less than 8 feet in the clear where the gallery accommodates 150 people; for every 50 people less than 150, accommodated by the gallery, said width may be reduced 1 foot. Stairways shall be constructed of fireproof material, and such material and the bearing capacity of such stairways shall be approved by the bureau of buildings.

4. *Gradients.* To overcome any difference of level between corridors, lobbies and aisles in a theatre, gradients of not over 1 foot in 10 feet, or steps having a rise not over 8 inches and a width of not less than 10 inches shall be used.

5. *Walls.* If the walls of the theatre contain wooden studs they shall be covered either with expanded metal lath or wire mesh and plastered with 3 coats of first class plaster, or with metal on ½-inch plaster boards, and all joints shall be properly filled with mortar.

§503. **Means of egress.** 1. *Aisles.* All aisles in a motion picture theatre or in a gallery thereof must be at least 3 feet in the clear. **503**

2. *Chair space.* All chairs in such a theatre, except those contained in the boxes, must not be less than 32 inches from back to back and must be firmly secured to the floor; no seat shall have more than 7 seats intervening between it and an aisle, and the space occupied by each person shall be separated from the adjoining space by means of an arm or other suitable device.

3. *Exits.* A building to be erected or to be altered for use as a motion picture theatre must be provided, on the main floor thereof, with at least 2 separate exits, one of which shall be in the front and the other in the rear of the structure and both leading to unobstructed outlets to the street. Where the main floor of the theatre accommodates more than 300 people, there shall be at least 3 such exits, the aggregate width in feet of which shall not be less than one-twentieth of the number of persons to be accommodated therein. No exit shall be less than 5 feet in width, and there shall be a main exit, not less than 10 feet in total width. All exit doors must be fireproof and made to open outwardly, and be so arranged as not to obstruct the required width of exit or court when opened. All doors leading to fire escapes must be not less than 40 inches wide in the clear, and shall be located at the opposite side or end of the gallery from other exit doors.

4. *Exit passageway to street.* In any such building, if an unobstructed exit to a street cannot be provided at the rear thereof as herein specified, either an open court or a fireproof passageway or corridor must be provided, extending from the rear exit to the street front, at least 4 feet in the clear for theatres accommodating 100 persons or less; the width to be increased 8 inches for every additional 100 persons to be accommodated. Such passageway or corridor must be constructed of fireproof material and be at least 10 feet high in the clear. The walls forming such passageway or corridor must be at least 8 inches thick, and shall be constructed of brick or other approved fireproof material. If there be a basement, the wall on the auditorium side should either run 1 foot below the cellar bottom, or may be carried in the cellar on iron columns and girders properly fireproofed, according to § 350 of this chapter. The ceiling of such passageway must be constructed as required by § 352 of this chapter. If unobstructed rear exits or exits to a street are provided, they must be of the same total width required for the court, passageway or corridor above mentioned. The level of the open court or passageway at the front of the building shall not be greater than 1 step above the level of the sidewalk, and the grade shall not be more than 1 foot in 10, with no perpendicular risers.

5. *Fire-escapes.* Galleries must also be provided with at least one line of fire escapes, leading to an open court, fireproof passage or street without re-entering the same or any other building. If the fire escape leads to a point in the court nearer the street than any exit, there must be a width of not less than 4 feet in the clear between the outer edge of the fire escape and the outer wall of the court. All fire escapes must have balconies, not less than 3 feet 4 inches in width in the clear, and not less than 4 feet 6 inches long, and from said balconies there shall be staircases extending to the ground level, with a rise of not over 7¾ inches and a step of not less than 9½ inches, and the width of the stairs must not be less than 3 feet 4 inches.

504 §504. **Booth for projecting-machine and film.** Apparatus for projecting motion-pictures shall be contained in a fireproof booth or enclosure constructed as required by law. The booth in which the picture machine is operated shall be provided with an opening in its roof, or in the upper part of its side walls, leading to the outdoor air, and with a vent flue, which shall have a minimum cross sectional area of 50 square inches and shall be fireproof. When the booth is in use, there shall be a constant current of air passing outward through said opening or vent flue, at the rate of not less than 30 cubic feet per minute. The requirements

of this section shall apply to portable booths and booths in open-air theatres, as well as to motion-picture theatres.

§505. Application to existing theatres. All the pro- **505**
visions of this article shall apply to existing places of entertainment where motion pictures are exhibited under common show licenses, in case the seating capacity be increased; and, in case the seating capacity be not increased, all the provisions of this article shall apply, except the provisions of §§ 500, 501; subdivisions 1, 3 and 5 of §502 and subdivisions 3, 4 and 5 of §503, but the commissioner of licenses shall have power in his discretion to enforce the provisions of subdivisions 3 and 4 of §503, relating to exits and courts.

An existing place of entertainment seating 300 persons or less, where motion pictures are exhibited in conjunction with any other form of entertainment, must comply, before a reissuance of its license, with the provisions of article 25 of this chapter, relating to theatres seating more than 300 persons. But, if such existing place of entertainment shall discontinue all other form of entertainment except the exhibition of motion pictures, it may be licensed in accordance with the provisions of first paragraph of this section.

§506. Open-air motion-picture theatres. The seating **506**
capacity of each open-air motion-picture theatre, as defined in §30 of chapter 3 of this ordinance, shall be such as shall be prescribed by the commissioner of licenses. All such theatres shall conform to the following requirements:

1. *Aisles.* The number and width of all aisles shall be as prescribed by the commissioner of licenses, but no aisle shall be less than 4 feet wide;

2. *Exits.* At least 2 separate exits, remote from each other, shall be provided, and no exit shall be less than 5 feet in width; for every 25 persons to be accommodated in excess of 300, the total width of exits shall be increased 1 foot. All exits must be indicated by signs and red lights, and doors must open outwardly;

3. *Seats.* Seats must be stationary, with backs 32 inches apart, and so arranged that no seat shall have more than 7 seats intervening between it and an aisle. Chairs must be either securely fastened to a wood or concrete floor, or all chairs in a row must be fastened together, and at least 4 rows must be securely fastened to 1 frame; except that, where refreshments are served, tables and unattached chairs or benches used with them may be permitted;

4. *Floors.* The floor must be constructed either of wood, with sleepers, or concrete; it must extend at least 5 feet from the seats on all sides; provided, however, that, in the discretion of the commissioner of licenses, a gravel floor may be substituted for wood or concrete.

In addition to the foregoing requirements, the provisions of subdivisions 2 and 4 of §502, and §504 of this article shall apply to all open-air motion picture theatres.

Article 25

Theatres and Other Places of Amusement

(In Effect March 30, 1915)

520 §520. **Application of article.** Every theatre or opera house or other building intended to be used for theatrical or operatic purposes, or for public entertainment of any kind hereafter erected for the accommodation of more than 300 persons, shall be built to comply with the requirements of this article. No building which, at the time of the passage of this ordinance is not in actual use for theatrical or operatic purposes, and no building hereafter erected not in conformity with the requirements of this section, shall be used for theatrical or operatic purposes, or for public entertainments of any kind, until the same shall have been made to conform to the requirements of this article.

521 §521. **Buildings must be approved.** No building described in the preceding section of this article shall be opened to the public for theatrical or operatic purposes, or for public entertainments of any kind, until the fire commissioner and the superintendent of buildings shall have approved the same in writing as conforming to the requirements of this article.

§522. **Auditorium walls.** Interior walls built of fire proofing materials shall separate the auditorium from the entrance vestibule, and from any room or rooms over the same, also from lobbies, corridors, refreshment or other rooms. **522**

§523. **Dressing rooms.** Dressing rooms may be placed in the fly galleries, provided that proper exits are secured therefrom to the fire escapes in the open courts, and that the partitions and other matters pertaining to dressing rooms shall conform to the requirements herein contained, but the stairs leading to the same shall be fireproof. All dressing rooms shall have an independent exit leading directly into a court or street, and shall be ventilated by windows in the external walls; and no dressing room shall be below the street level. All windows shall be arranged to open, and none of the windows in outside walls shall have fixed sashes, iron grills or bars. **523**

§524. **Fire-extinguishing appliances.** In every building described in §520 of this article there shall be provided: **524**

1. *Hose.* A proper and sufficient quantity of 2½-inch hose, not less than 100 feet in length, fitted with the regulation couplings of the fire department and with nozzles attached thereto, and with hose spanners at each outlet, shall always be kept attached to each hose attachment as the fire commissioner may direct.

2. *Sprinkler system.* A separate and distinct system of automatic sprinklers, with fusible plugs, approved by the superintendent of buildings, supplied with water from a tank located on the roof over the stage and not connected in any manner with the stand pipes, shall be placed at each side of the proscenium opening and on the ceiling or roof over the stage at such intervals as will protect every square foot of stage surface when said sprinklers are in operation. Automatic sprinklers shall also be placed, wherever practicable, in the dressing rooms under the stage and in the carpenter shop, paint rooms, store rooms and property room.

3. *Standpipes.* Stand pipes 4 inches in diameter shall be provided with hose attachments on every floor and gallery as follows, namely: One on each side of the auditorium in each tier, also on each side of the stage in each tier, and at least one in the property room and one in the carpenter's shop, if the same be contiguous to the building. All such stand pipes shall be kept clear from obstruction. Said stand pipes shall be separate and distinct, receiving their supply of water direct from the power pump or pumps, and shall be fitted with the regulation couplings of the fire department, and shall be kept constantly filled with water by means of

an automatic power pump or pumps, of sufficient capacit to supply all the lines of hose when operated simultaneously and said pump or pumps shall be supplied from the stree main and be ready for immediate use at all times during an performance in said building. In addition to the require ments contained in this section, the stand pipes shall als conform to the requirements contained in §581 of this chap ter.

4. *Miscellaneous.* There shall also be kept in readines for immediate use on the stage, at least 4 casks full of wate and 2 buckets to each cask. Said casks and buckets shall b painted red. There shall also be provided hand pumps o other portable fire extinguishing apparatus and at least axes and 2 25-foot hooks, 2 15-foot hooks, and 2 10-foo hooks on each tier or floor of the stage.

525 §525. **Heating plant.** Every steam boiler which may b required for heating or other purposes shall be located out side of the building. The space allotted to the same shall b inclosed by walls of masonry on all sides, and the ceiling o such space shall be constructed of fireproof materials. A doorways in the walls of boiler-rooms shall have fireproo doors. No floor register for heating shall be permitted. N coil or radiator shall be placed in any aisle or passageway used as an exit, but all said coils and radiators shall be place in recesses formed in the wall or partition to receive th same. All supply, return or exhaust pipes shall be properl incased and protected where passing through floors or nea woodwork.

526 §526. **Lights.** 1. *Adequacy.* Every portion of th building devoted to the uses or accommodation of the publi also all outlets leading to the streets and including the ope courts or corridors, shall be well and properly lighted durin every performance, and the same shall remain lighted unt the entire audience has left the premises. When interior ga lights are not lighted by electricity, other suitable appliance to be approved by the superintendent of buildings, shall b provided.

2. *Corridors and passageways.* All gas or electric light in the halls, corridors, lobby or any other part of said build ings used by the audience, except the auditorium, must b controlled by a separate shut-off, located in the lobby an controlled only in that particular place.

3. *Fireproofing.* No gas or electric light shall be in serted in the walls, woodwork, ceilings, or in any part of th building, unless protected by fireproof materials.

4. *Gas connections.* Gas mains supplying the buildin shall have independent connections for the auditorium an

the stage, and provision shall be made for shutting off the gas from the outside of the building.

5. *Nettings.* All suspended or bracket lights surrounded by glass in the auditorium, or in any part of the building devoted to the public, shall be provided with proper wire netting underneath. All lights in passages and corridors in said buildings, wherever deemed necessary by the superintendent of buildings, shall be protected with proper wire network.

6. *Stage lights.* All stage lights shall have strong metal wire guards or screens, not less than 10 inches in diameter, so constructed that any material in contact therewith shall be out of reach of the flames of said stage lights, and must be soldered to the fixture in all cases. The foot lights, in addition to the wire network, shall be protected with a strong wire guard and chain, placed not less than 2 feet distant from said foot lights, and the trough containing them shall be formed of and surrounded by fireproof materials. All border lights shall be constructed according to the best known methods, subject to the approval of the superintendent of buildings, and shall be suspended for 10 feet by wire rope.

7. *Ventilators.* All ducts or shafts used for conducting heated air from the main chandelier, or from any other light or lights, shall be constructed of metal and made double, with an air space between.

§527. **Means of egress.** 1. *Exits to streets.* Every theatre accommodating 300 persons shall have at least 2 exits; when accommodating 500 persons, at least 3 such exits shall be provided; these exits not referring to or including the exits to the open court at the side of the theatre. Every such building shall have at least one front on the street, and in such front there shall be suitable means of entrance and exit for the audience, not less than 25 feet in width. The entrance of the main front of the building shall be not on a higher level from the sidewalk than four steps, unless approved by the superintendent of buildings. Each exit shall be at least 5 feet in width in the clear and provided with doors of iron or wood; if of wood, the doors shall be constructed as hereinbefore prescribed in this chapter. All of said doors shall open outwardly, and shall be fastened with movable bolts, the bolts to be kept drawn during performances. **527**

2. *Exits to courts.* In addition to the aforesaid entrances and exits on the street, there shall be reserved for service in case of an emergency an open court or space in the rear and on the side not bordering on the street, where said building is located on a corner lot; and in the rear and on both

sides of said building, where there is but one frontage on the street as hereinafter provided. The width of such open court or courts shall be not less than 10 feet where the seating capacity is not over 1,000 people, above 1,000 and not more than 1,800 people 12 feet in width, and above 1,800 people 14 feet in width. Said open court or courts shall extend the full length and height of the building and across on each side and rear thereof where its sides or side does not abut on a street or alley, and shall be of the same width at all points and exits hereafter specified shall lead into such open courts. From the auditorium opening into the said open courts or on the side street, there shall be not less than 2 exits on each side in each tier from and including the parquet and each gallery. The said open courts and corridors shall not be used for storage purposes, or for any purposes whatsoever, except for exit and entrance from and to the auditorium and stage and must be kept free and clear during performances.

3. *Doorways of exits.* Doorways of exit or entrance for the use of the public shall be not less than 5 feet in width and for every additional 100 persons or portions thereof to be accommodated, in excess of 500, an aggregate of 20 inches additional exit width must be allowed. All doors of exit or entrance shall open outwardly and be hung to swing in such a manner as not to become an obstruction in a passage or corridor, and no such doors shall be closed and locked during any representation, or when the building is open to the public.

4. *Foyers, lobbies and corridors.* The foyers, lobbies, corridors, passages and rooms for the use of the audience, not including aisles spaced between seats, shall on the first or main floor, where the seating capacity exceeds 500 or more, be at least 16 feet clear, back of the last row of seats, and on each balcony or gallery at least 12 feet clear of the last row of seats. The level of said corridors at the front entrance to the building shall be not greater than one step above the level of the sidewalk where they begin at the street entrance. During the performance the doors or gates in the corridors shall be kept open by proper fastenings; at other times they may be closed and fastened by movable bolts or blocks.

5. *Aisles.* All aisles on the respective floors of the auditorium shall be not less than 3 feet wide where they begin and shall be increased in width toward the exits in a ratio of 1½ inches to 5 running feet.

6. *Gradients.* Gradients or inclined planes shall be employed instead of steps where possible to overcome slight difference of level in or between aisles, corridors and passages. To overcome any difference of level in and between

courts, corridors, lobbies, passages and aisles on the ground floor, gradients shall be employed of not over 1 foot in 12 feet, with no perpendicular rises.

7. *Gallery exits.* Distinct and separate places of exit and entrance shall be provided for each gallery above the first. A common place of exit and entrance may serve for the main floor of the auditorium and the first gallery, provided its capacity be equal to the aggregate capacity of the outlets from the main floor and the said gallery. No passage leading to any stairway communicating with any entrance or exit shall be less than 4 feet in width in any part thereof. From the auditorium opening into the said open courts or on the side street, there shall be not less than 2 exits on each side in each tier from and including the parquet and each and every gallery.

8. *Staircases to galleries.* Where the seating capacity is for more than 1,000 people, there shall be at least 2 independent staircases, with direct exterior outlets, provided for each gallery in the auditorium, where there are not more than 2 galleries, and the same shall be located on opposite sides of said galleries. Where there are more than 2 galleries, 1 or more additional staircases shall be provided, the outlets from which shall communicate directly with the principal exit or other exterior outlets. All such staircases shall be of width proportionate to the seating capacity as elsewhere herein prescribed. Where the seating capacity is for 1,000 people, or less, 2 direct lines of staircases only shall be required, located on opposite sides of the galleries, and in both cases shall extend from the sidewalk level to the upper gallery, with outlets from each gallery to each of said staircases. All inside stairways leading to the upper galleries of the auditorium shall be inclosed on both sides with walls of fireproof materials. Stairs leading to the first or lower gallery may be left open on one side, in which case they shall be constructed as herein provided for similar stairs leading from the entrance hall to the main floor of the auditorium. But in no case shall stairs leading to any gallery be left open on both sides. No door shall be open immediately upon a flight of stairs, but a landing at least the width of the door shall be provided between such stairs and such door.

9. *Stage staircases.* At least 2 independent staircases, with direct exterior outlets, shall also be provided for the service of the stage and shall be located on the opposite sides of the same.

10. *Stairways.* All staircases for the use of the audience shall be inclosed with walls of brick, or of fireproof materials approved by the superintendent of buildings, in the

stories through which they pass, and the openings to said staircases from each tier shall be of the full width of said staircase. All stairs within the building shall be constructed of fireproof material throughout. Stairs from balconies and galleries shall not communicate with the basement or cellar. All stairs shall have treads of uniform width and risers of uniform height throughout in each flight. Stairways serving for the exit of 50 people shall be at least 4 feet wide between railings or between walls, and for every additional 50 people to be accommodated 6 inches must be added to their width. The width of all stairs shall be measured in the clear between hand rails. In no case shall the risers of any stairs exceed 7½ inches in height, nor shall the treads, exclusive of nosings, be less than 10½ inches wide in straight stairs. No circular or winding stairs for the use of the public shall be permitted. When straight stairs return directly on themselves, a landing of the full width of both flights, without any steps, shall be provided. The outer line of landings shall be curved to a radius of not less than 2 feet to avoid square angles. Stairs turning at an angle shall have a proper landing without winders introduced at said turn. In stairs, when 2 side flights connect with one main flight, no winders shall be introduced, and the width of the main flight shall be at least equal to the aggregate width of the side flights. All stairs shall have proper landings introduced at convenient distances.

11. *Stairway hand rails.* All inclosed staircases shall have, on both sides, strong hand rails firmly secured to the wall about 3 inches distant therefrom and about 3 feet above the stairs, but said hand rails shall not run on level platforms and landings where the same is more in length than the width of the stairs. All staircases 8 feet and over in width shall be provided with a centre hand rail of metal, not less than 2 inches in diameter, placed at a height of about 3 feet above the centre of the treads, and supported on wrought metal or brass standards of sufficient strength, placed not nearer than 4 feet nor more than 6 feet apart, and securely bolted to the treads or risers of stairs, or both, and at the head of each flight of stairs, on each landing, the post or standard shall be at least 6 feet in height, to which the rail shall be secured.

12. *Fire-escapes.* There shall be balconies not less than 6 feet in width in the said open court or courts at each level or tier above the parquet, on each side of the auditorium, of sufficient length to embrace the 2 exits, and from said balconies there shall be staircases extending to the ground level, with a rise of not over 8½ inches to a step and not less than 9 inches tread, exclusive of the nosing.

The staircase from the upper balcony to the next below shall be not less than 48 inches in width clear, and from the first balcony to the ground 4 feet in width in the clear where the seating capacity of the auditorium is for 1,000 people or less, 4 feet 6 inches in the clear where above 1,000 and not more than 1,800 people, and 5 feet in the clear where above 1,800 people and not more than 2,500 people, and not over 5 feet 6 inches in the clear where above 2,500 people. All the before mentioned balconies and staircases shall be constructed of iron throughout, including the floors, and of ample strength to sustain the load to be carried by them, and they shall be covered with a metal hood or awning, to be constructed in such manner as shall be approved by the superintendent of buildings. Where one side of the building borders on the street, there shall be balconies and staircases of like capacity and kind, as before mentioned, carried to the ground.

13. *Diagram of exits.* A diagram or plan of each tier, gallery or floor, showing distinctly the exits therefrom, each occupying a space not less than 15 square inches, shall be printed in black lines in a legible manner on the programme of the performance. Every exit shall have over the same on the inside the word "Exit" painted in legible letters not less than 8 inches high.

§528. **Partitions and walls.** The partitions in that portion of the building which contains the auditorium, the entrance and vestibule and every room and passage devoted to the use of the audience shall be constructed of fireproof materials including the furring of outside or other walls. The walls separating the actors' dressing rooms from the stage and the partitions dividing the dressing rooms, together with the partitions of every passageway from the same to the stage, and all other partitions on or about the stage, shall be constructed of fireproof material approved by the superintendent of buildings. All doors in any of said partitions shall be fireproof. 528

§529. **Proscenium construction.** A fire wall, built of brick, shall separate the auditorium from the stage. The same shall extend at least 4 feet above the stage roof, or the auditorium roof, if the latter be the higher, and shall be coped. Above the proscenium opening there shall be an iron girder of sufficient strength to safely support the load above, and the same shall be covered with fireproof materials to protect it from the heat. Should there be constructed an orchestra over the stage, above the proscenium opening, the said orchestra shall be placed on the auditorium side of the proscenium fire wall, and shall be entered only from the auditorium side of said wall. The molded frame around the 529

proscenium opening shall be formed entirely of fireproof materials; if metal be used, the metal shall be filled in solid with non-combustible material and securely anchored to the wall with iron. No doorway or opening through the proscenium wall, from the auditorium, shall be allowed above the level of the first floor, and such first floor openings shall have fireproof doors on each face of the wall, and the doors shall be hung so as to be opened from either side at all times.

530 §530. **Protective curtain.** The proscenium opening shall be provided with a fireproof metal curtain, or a curtain of asbestos or other fireproof material approved by the superintendent of buildings, sliding at each end with iron grooves, securely fastened to the brick wall and extending into such grooves to a depth not less than 6 inches on each side of the opening. The proscenium curtains shall be placed at least 3 feet distant from the foot-lights, at the nearest point. Said fireproof curtain shall be raised at the commencement of each performance and lowered at the close thereof, and be operated by approved machinery for that purpose.

531 §531. **Roof of auditorium.** The roof over the auditorium and the entire main floor of the auditorium and vestibule, also the entire floor of the second story of the front superstructure over the entrance, lobby and corridors, and all galleries and support for the same in the auditorium shall be constructed of iron and steel and fireproof materials, not excluding the use of wood floorboards and necessary sleepers to fasten the same to, but such sleepers shall not mean timbers of support, and the space between the sleepers, excepting a portion under the stepping in the galleries, which shall be properly fire stopped, shall be solidly filled with incombustible material up to under side of the floor boards.

532 §532. **Seats.** All seats in the auditorium, excepting those contained in boxes, shall be not less than 32 inches from back to back, measured in a horizontal direction, and firmly secured to the floor. No seat in the auditorium shall have more than 6 seats intervening between it and an aisle on either side. No stool or seat shall be placed in any aisle. All platforms in galleries formed to receive the seats shall not be more than 21 inches in height of riser, nor less than 32 inches in width of platform.

533 §533. **Stage.** 1. *Construction.* All that portion of the stage not comprised in the working of scenery, traps and other mechanical apparatus for the presentation of a scene, usually equal to the width of the proscenium opening, shall be built of iron or steel beams filled in between with fireproof material, and all girders for the support of said beams

shall be of wrought iron or rolled steel. The fly galleries entire, including pin-rails, shall be constructed of iron or steel, and the floors of said galleries shall be composed of iron or steel beams, filled with fireproof materials, and no wood boards or sleepers shall be used as covering over beams, but the said floors shall be entirely fireproof. The rigging loft shall be fireproof.

2. *Skylights.* There shall be provided over the stage, metal skylights of an area or combined area of at least 1/8 the area of said stage, fitted up with sliding sash and glazed with double thick sheet glass not exceeding 1-12 of an inch thick, and each pane thereof measuring not less than 300 square inches and the whole of which skylight shall be so constructed as to open instantly on the cutting or burning of a hempen cord, which shall be arranged to hold said skylights closed, or some other equally simple approved device for opening them may be provided. Immediately underneath the glass of said skylights there shall be wire netting, but wire glass shall not be used in lieu of this requirement.

3. *Scenery and fittings.* All stage scenery, curtains and decorations made of combustible material, and all woodwork on or about the stage, shall be painted or saturated with some non-combustible material or otherwise rendered safe against fire, and the finishing coats of paint applied to all woodwork through the entire building shall be of such kind as will resist fire to the satisfaction of the superintendent of buildings having jurisdiction.

§534. **Miscellaneous requirements.** 1. *Ceilings.* The ceiling under each gallery shall be entirely formed of fireproof materials. The ceiling of the auditorium shall be formed of fireproof materials. **534**

2. *Ceiling coverings.* None of the walls or ceilings shall be covered with wood sheathing, canvas or any combustible material. But this shall not exclude the use of wood wainscoting to a height not to exceed 6 feet, which shall be filled in solid between the wainscoting and the wall with fireproof materials.

3. *Fronts of galleries.* The fronts of each gallery shall be formed of fireproof materials, except the capping, which may be made of wood.

4. *Lathing.* All lathing, whenever used, shall be of wire or other metal.

5. *Shelving and cupboards.* All shelving and cupboards in each and every dressing room, property room or other storage rooms, shall be constructed of metal, slate or some fireproof material.

535 §535. **Storage rooms; workshops.** No workshop, storage or general property room shall be allowed above the auditorium or stage, or under the same or in any of the fly galleries. All of said rooms or shops may be located in the rear or at the side of the stage, but in such cases they shall be separated from the stage by a brick wall, and the openings leading into said portions shall have fireproof doors on each side of the openings, hung to iron eyes built into the wall.

536 §536. **Use and occupancy.** 1. *Restrictions.* No portion of any building hereafter erected or altered, used or intended to be used for theatrical or other purposes as in this section specified, shall be occupied or used as a hotel, boarding or lodging house, factory, workshop or manufactory, or for storage purposes, except as may be hereafter specially provided for. This restriction relates not only to that portion of the building which contains the auditorium and the stage, but applies also to the entire structure in conjunction therewith. No store or room contained in the building, or the offices, stores or apartments adjoining, as aforesaid, shall be let or used for carrying on any business, dealing in articles designated as specially hazardous in the classification of the New York Board of Fire Underwriters, or for manufacturing purposes. No lodging accommodations shall be allowed in any part of the building communicating with the auditorium. When located on a corner lot, that portion of the premises bordering on the side street and not required for the uses of the theatre may, if such portion be not more than 25 feet in width, be used for offices, stores or apartments, provided the walls separating this portion from the theatre proper are carried up solidly to and through the roof, and that a fireproof exit is provided for the theatre on each tier, equal to the combined width of exits opening on opposite sides in each tier, communicating with balconies and staircases leading to the street in manner provided elsewhere in this section; said exit passages shall be entirely cut off by brick walls from said offices, stores or apartments, and the floors and ceilings in each tier shall be fireproof..

2. *Above theatre.* Nothing herein contained shall prevent a roof garden, art gallery or rooms for similar purposes being placed above a theatre or public building, provided the floor of the same, forming the roof over such theatre or building, shall be constructed of iron or steel and fireproof materials, and that said floor shall have no covering boards or sleepers of wood, but shall be of tile or cement. Every roof over said garden or rooms shall have all supports and rafters of iron or steel, and be covered with glass or fireproof materials, or both, but no such roof garden, art

gallery or room for any public purposes shall be placed over or above that portion of any theatre or other building which is used as a stage.

§537. **Jurisdiction of fire commissioner.** The stand pipes, gas pipes, electric wires, hose, foot lights and all apparatus for the extinguishing of fire or guarding against the same, as in this article specified, shall be in charge and under control of the fire department, and the fire commissioner is hereby directed to see that the provisions of this article relating thereto are carried out and enforced. 537

§538. **Saving clause.** The provisions of the foregoing article shall not be construed to mean or made to apply to any theatre, opera house or building intended to be used for theatrical or operatic purposes, lawfully erected prior to June 3, 1904. 538

Article 26

(Repealed)

Article 27

Elevators

(In Effect March 14, 1916)

§560. **Definitions.** For the purposes of this article: 560

a—the term elevator shall mean any device within or in connection with a building or structure used for carrying persons or things upward or downward;

b—the term passenger elevator shall mean and include any elevator designed and used for carrying persons other than those necessary for its safe operation or for the handling of things carried by it;

c—the term freight elevator shall mean and include any elevator designed and used for the carrying of things and of such persons only as are necessary for its safe operation or the handling of things carried by it;

d—the term amusement device shall mean and include all mechanically operated devices which are used to convey persons in any direction as a form of amusement.

561 §561. **Rules.** The superintendent of buildings shall make rules consistent with the provisions of this article, regulating, with a view to safety, the construction, maintenance and operation of all elevators and amusement devices, now existing or hereafter installed.

562 §562. **Permits.** No passenger or freight elevator shall hereafter be installed or altered in any building nor shall any amusement device be hereafter constructed or altered, until the owner or lessee, or the agent, architect or contractor of either, shall have submitted to the superintendent of buildings, in such form as the superintendent may prescribe, an application accompanied by plans and drawings showing the proposed construction and mode of operation, and such application has been approved by the superintendent and a permit has been issued by him. Repairs to elevators and amusement devices may be made without filing such application, except when such repairs include a change in the type of elevator or of its motive power, or when any change in safety devices or operating mechanism is made.

563 §563. **Certificate.** Whenever a passenger or freight elevator or an amusement device is hereafter installed or constructed, it shall be unlawful for the owner or lessee to operate or permit the operation or use of the same until a certificate shall have been obtained from the superintendent of buildings that such elevator or amusement device has been inspected and has been found to be safe. The superintendent of buildings shall within a reasonable time after being requested to do so inspect or cause to be inspected any elevator or amusement device hereafter installed or constructed and if the same is found to be safe and in conformity with the provisions of this article and the rules adopted thereunder, shall issue a certificate to that effect. Nothing herein contained shall prevent the temporary use under a certificate issued by the superintendent of buildings of any elevator during construction, provided a notice is conspicuously posted on or in connection with such elevator to the effect that such elevator has not been officially approved.

564 §564. **Record of passenger elevators.** Every passenger elevator shall be given a serial number for purposes of identification. In the case of elevators hereafter installed such serial number shall be assigned when the first certificate is issued, and in the case of existing elevators, as soon as inspection can be made for that purpose. A docket of all passenger elevators shall be kept in each borough, giving under

the corresponding serial number a description of its location sufficient for identification, together with such other information as type of construction, motive power, rise, rated speed, inspection, etc., as the superintendent of buildings may deem desirable. The owner or lessee, or agent of either, shall cause such number, together with the most recent certificate of inspection, to be attached or posted in the elevator car in the manner prescribed by the rules.

§565. **Inspection.** The superintendent of buildings shall cause an inspection of all passenger elevators to be made at least once in every three months and of freight elevators and amusement devices at least twice in each year. Upon notice from the superintendent of buildings, or his duly authorized representative, any repairs found necessary to such elevators or amusement devices shall be made without delay by the owner or lessee, and in case defects are found to exist in the continued use of such elevator or amusement device are dangerous to life or limb, then the use of such elevator or amusement device shall cease, and it shall not again be used until a certificate shall be first obtained from said superintendent of buildings that such elevator or amusement device has been made safe. After every inspection which shows any elevator or amusement device to be safe and in conformity with the requirements of this article and the rules adopted thereunder, the superintendent of buildings shall issue a certificate to that effect. **565**

§566. **Riding on elevators restricted.** It shall be unlawful for any person, other than the operator or those necessary to handle freight to ride on, or for the owner or lessee of any elevator knowingly to permit any person to ride on any elevator other than a passenger elevator. Every freight elevator shall have a notice posted conspicuously thereon as follows: THIS IS NOT A PASSENGER ELEVATOR. IT IS UNLAWFUL FOR ANY PERSON OTHER THAN THE OPERATOR OR THOSE NECESSARY TO HANDLE FREIGHT, TO RIDE ON THIS ELEVATOR. **566**

§567. Operators. Except as may be specifically provided in any other other law or ordinance, every passenger elevator, except full automatic push button elevators and escalators, must be in charge of a competent operator of reliable and industrious habits, not less than eighteen years of age, with sufficient previous experience in running an elevator under the instruction of a competent person. No operators of amusement devices known as electrically operated scenic railroads shall be employed who have not attained the age of twenty-one years and who have not secured a certificate of competency from the superintendent of buildings. **567**

In case the superintendent of buildings shall find that the person engaged in running an elevator is incompetent or not qualified, the owner or lessee of such elevator shall, upon notice from the superintendent of buildings, at once discontinue the operation of such elevator by such operator. No person shall employ or permit any person to operate any passenger elevator who does not possess the qualifications prescribed therefor by this or any other law or ordinance.

568 §568. **Accidents.** The owner or lessee, or person in charge of any passenger or freight elevator or amusement device shall immediately notify the superintendent of buildings of each and every accident to a person or damage to apparatus on about or in connection with such elevator or amusement device, and shall afford the superintendent of buildings or his representative every facility for investigating such accident or damage. The superintendent of buildings shall without delay, after being notified, make an investigation, and shall place on file in the bureau of buildings a full and complete report of such investigation. Such report shall give in detail all material facts and information available and the cause or causes so far as they can be determined, and shall be open to public inspection at all reasonable hours. When an accident involves the failure or destruction of any part of the construction or operating mechanism of a passenger elevator or amusement device, said passenger elevator or amusement device, shall not be used until it has been made safe, and the superintendent of buildings may, if deemed necessary, order the discontinuance of the same until a certificate has been issued by him for its use, but no part of the damaged construction or operating mechanism shall be removed from the premises until permission to do so has been granted by the superintendent of buildings or his representative.

Article 28

Fire Extinguishing Appliances

(In Effect March 7, 1916)

580 §580. **General provisions.** Except as otherwise specifically provided in this article or by any law or ordinance, all buildings now existing or hereafter erected, shall be provided with such tanks, standpipes, automatic sprinklers, hose

nozzles, wrenches, fire extinguishers, hooks, axes and such other appliances as may be required by and conforming to the rules of the fire commissioner, adopted or amended in the manner prescribed by this chapter for the rules of the superintendent of buildings.

§581. **Standpipes.** 1. *When required.* Standpipes, constructed and installed as hereinafter required, shall be provided **581**

a—in every building now existing and exceeding eighty-five feet in height, which is not already provided with a three-inch or larger standpipe.

b—in every building hereafter erected or altered to exceed eighty-five feet in height; and

c—in every building exceeding ten thousand square feet in area.

2. *Size.* Standpipes hereafter placed in any building shall not be less than four inches in diameter for buildings or parts thereof not exceeding one hundred and fifty feet in height, not less than six inches in diameter for buildings or parts thereof exceeding one hundred and fifty feet and not exceeding two hundred and fifty feet in height, and not less than eight inches in diameter for buildings or parts thereof exceeding two hundred and fifty feet in height.

3. *Number and location.* The number of standpipes in any building shall be such that all parts of each story are within the reach of at least one stream supplied by hose not exceeding one hundred feet in length. When a building requiring standpipes faces on more than one street, at least one standpipe shall be installed for each street front, provided that for intersecting street fronts one standpipe shall be sufficient for each intersection. So far as practicable standpipes shall be placed within stair enclosures; otherwise they shall be as near the stairs as possible. All standpipes shall extend from the lowest story to and above the roof.

4. *Construction.* All standpipes hereafter installed shall be constructed as prescribed by the rules of the fire commissioner and shall be provided with such outlets and equipped with such appliances as required by said rules. All standpipes shall extend to the street and shall be provided at or near the sidewalk with approved Siamese connections. When there is more than one standpipe in any building all shall be cross-connected in an approved manner below the sidewalk level.

Article 29

Plumbing and Other Systems of Piping
(In Effect March 30, 1915)

Section 600. Rules.
601. Shut-off valves.
602. Tests of plumbing.
603. Tests of gas-piping.
604. Registration of plumbers.

600 §600. **Rules.** The plumbing and drainage system water supply pipes, gas, piping, steam or hot water heatin or power systems, refrigerating systems and other systems c pipes or apparatus for holding or conveying gases, vapors c fluids hereafter installed and maintained in or upon an building in the city shall conform to such rules as may b provided for by law or may be found necessary for th protection of life, health or property, and adopted by th superintendent of buildings. No person shall use or perm the use of any such system, piping or apparatus installed c maintained in violation of any of the provisions of this art cle or the rules adopted hereunder. Said rules, hereafte adopted, and any changes thereof, shall be published in th City Record on 8 successive Mondays before they shall b come operative.

Nothing herein contained or in the rules adopted hereund shall require the alteration or reconstruction of any existin work that was lawfully installed, nor prevent repairs or th addition of new fixtures to existing work in conformity wi the practice followed in the original installation; provide however, that, when such repairs involve the removal o alteration of more than one-half of the existing work a fected by the repairs, the rules in force at the time of suc repairs shall apply.

601 §601. **Shut off valves.** Every building hereafter erecte and also every existing building, other than residence build ings occupied exclusively by one or two families and havin not more than 15 sleeping rooms, which may be supplie from some outside source with gas, vapor or fluid, sha have a conveniently accessible stopcock or other suitabl device fixed to the supply pipes leading into the building a a place outside of the building, so arranged as to allow th supply to be shut off. Such stopcock or other device sha be so marked as to indicate either the contents and purpos of the supply pipe to which it is attached, or the compan to which the device belongs.

§602. **Tests of plumbing.** No person shall use or permit the use of any new system of plumbing and drainage hereafter installed in any building before the same has been tested under the supervision of the bureau of buildings and in accordance with its rules, to insure the tightness of the system, nor until a proper and adequate water supply has been provided. The superintendent of buildings shall, within a reasonable time after being requested to do so, cause to be inspected and tested any system of plumbing and drainage that is ready for such inspection and test, and, if the work is found satisfactory and the test requirements are complied with, shall issue a certificate to that effect. Nothing herein contained shall prevent the inspection and test of part of a system or the issuance of a partial certificate, nor prevent the use of such part of a larger system provided that such part constitutes by itself a complete system properly tested and supplied with water. 602

§603. **Tests of gas-piping.** No person shall use or permit the use of any new system or an extension of an old system of gas piping in any building before the same has been inspected and tested under the supervision of the bureau of buildings and in accordance with its rules, to insure the tightness of the system. The superintendent of buildings shall, within a reasonable time after being requested to do so, cause to be inspected and tested any system of gas piping that is ready for such inspection and test, and if the work is found satisfactory and the test requirements are complied with, he shall issue a certificate to that effect. Nothing herein contained shall prevent the use of existing systems of gas piping without further inspection or test, unless the superintendent of buildings has reason to believe that defects exist which make the system dangerous to life or property. 603

§604. **Registration of plumbers.** Once in each year every employing or master plumber carrying on his trade, business or calling in the city shall register his name and address at the office of the bureau of buildings in the borough of the said city in which he performs work, under such rules as the said bureau may prescribe. No person, corporation or copartnership shall engage in or carry on the trade, business or calling of employing or master plumber in the city unless the name and address of such person and the president, secretary or treasurer of the corporation, or of each and every member of the copartnership shall have been registered as above provided. 604

Article 30

(Repealed)

Article 31

Unsafe Buildings and Collapsed Structures
(In Effect December 21, 1915)

630 §630. **Removal or repair of buildings.** Any building of part of a building, staging or other structure that from any cause may now be, or shall at any time hereafter become dangerous or unsafe, shall be taken down and removed or made safe and secure.

631 §631. **Record and notice of unsafe building.** Immediately upon the receipt of a report by any officer or employe of the bureau of buildings that a building or part of a building, staging or structure is unsafe or dangerous, the superintendent of buildings shall cause the same to be entered upon a docket of unsafe buildings to be kept in his bureau; and the owner, or some one of the owners, executors, administrators, agents, lessees or any other person who may have a vested or contingent interest in the same, shall be served with a printed or written notice containing a description of the premises or structure deemed unsafe or dangerous, a statement of the particulars in which the building or structure is unsafe or dangerous, and an order requiring the same to be made safe and secure or removed as may be deemed necessary by the superintendent of buildings. Such notice shall require the person thus served to immediately certify to the superintendent his assent or refusal to secure or remove the same.

632 §632. **Voluntary abatement.** If the person served with a notice specified in §631, shall immediately certify his assent to the securing or removal of said unsafe or dangerous building, premises or structure, he shall be allowed

twenty-four hours after the service of such notice, in which to commence the securing or removal of the same; and he shall employ sufficient labor and assistance to secure or remove the same as expeditiously as can be done.

§633. Disregard of notice; survey. 1. *Notice of survey.* Upon the refusal or neglect of the person served with the notice for which provision is made in §§631 and 632, to comply with any of the requirements thereof, a further notice shall be served upon him, in the manner heretofore prescribed, notifying him that a survey of the premises named in said notice will be made at the time and place therein named, which time shall not be less than twenty-four hours nor more than three days from the time of the service of said notice, by three competent persons, of whom one shall be the superintendent of buildings or an inspector designated in writing by said superintendent, another shall be an architect, appointed either by the New York Chapter or the Brooklyn Chapter of the American Institute of Architects, or by the New York Society of Architects, and the third shall be a practical builder, engineer or architect appointed by the person thus notified. In case the person served with such notice shall neglect or refuse to appoint such surveyor, the other two surveyors shall make the survey, and in case of a disagreement of the latter, shall appoint a third person to take part in such survey, who shall also be a practical builder, engineer or architect of at least ten year's practice and whose decision shall be final. The notice shall also set forth that in case the premises referred to therein shall be reported unsafe or dangerous under such survey, the said report will be placed before the Supreme Court as indicated in the notice, and that a trial upon the allegations and statements contained in said report, be the report of said surveyors more or less than is contained in the said notice of survey, will be had before said court at a time and place therein named, to determine whether said unsafe or dangerous building or premises shall be repaired and secured or taken down and removed, and that a report of said survey, reduced to writing shall constitute the issue to be placed before the court for trial. 633

2. *Posting report of survey.* A copy of the report of the survey shall be posted on the building the subject thereof by the persons holding the survey immediately on their signing such report.

3. *Compensation of surveyor.* The architect appointed by the Chapters of the American Institute of Architects, as hereinbefore provided, who may act on any survey called

in accordance with the provisions of this article, and the third surveyor who may have been called in the case of disagreement provided for in this section, shall be entitled to and receive each the sum of $25, to be paid by the comptroller upon the voucher of the superintendent of buildings. A cause of action is hereby created for the benefit of the City against the owner of said building staging or structure, and of the lot or parcel of land on which the same is situated, for the amount so paid with interest. The amount so collected shall be paid over to the comptroller in reimbursement of the amounts paid by him as aforesaid.

634 §634. **Judicial review of survey.** 1. *Institution of proceeding.* Whenever the report of any such survey had as aforesaid shall recite that the building, premises or structure thus surveyed is unsafe or dangerous, the corporation counsel shall at the time specified in the notice place such notice and report before the justice holding a special term of the court named in the notice.

2. *Precedence of proceeding.* The determination of the issue in an unsafe building proceeding shall have precedence over every other business of such court, and a trial of the issue shall be held without delay at the time specified in the notice by the justice holding said court, or a referee whose decision or report in the matter shall be final, unless a jury trial is demanded, in which case the verdict of such jury shall be final.

3. *Postponement of trial.* If for any reason the issue shall not be tried at the time specified in said notice, or to which the trial may be adjourned, the same may be brought to trial at any time thereafter by the superintendent of buildings without a new survey, upon not less than three day's notice of trial to the person upon whom the original notice was served, or to his attorney. Such notice of trial may be served in the same manner as said original notice.

4. *Precept to abate.* Upon the rendition of a verdict or decision of the court or referee, if the said verdict or decision shall find the said building, premises or structure to be unsafe or dangerous, the justice trying the cause, or to whom the report of the referee trying said cause shall be presented, shall immediately issue a precept directed to the superintendent of buildings, reciting said verdict or decision, and commanding him forthwith to repair and secure, or take down or remove, as the case may be, the unsafe or dangerous building or part thereof, staging, structure or other premises that shall have been named in the said report, in accordance with such verdict or decision.

§635. **Repair or removal under precept.** 1. *Execution of precept.* Upon receiving a precept issued under the provisions of the preceding section, the superintendent of buildings referred to therein shall immediately proceed to execute the same, as therein directed, and may employ such labor and assistance and furnish such materials as may be necessary for that purpose, provided, nevertheless, that immediately upon the issuing of said precept, the owner of said building or part thereof, staging or structure, or premises, or any party interested therein, upon application to the superintendent of buildings, shall, upon the payment of all costs and expenses incurred up to that time by the city, be allowed to perform the requirements of the precept at his own proper cost and expense, if the same shall be done immediately and in accordance with the requirements of said precept. The superintendent of buildings shall have authority to modify the requirements of any precept upon application to him therefor, in writing, by the owner of said building or part thereof, staging or structure, or his representative, when he shall be satisfied that such change shall secure equally well the safety of said building, or part thereof, staging or structure. **635**

2. *Interference prohibited.* It shall be unlawful for any person, whether interested or not in the property affected, to interfere, obstruct or hinder the superintendent of buildings or his representative or any person who, acting under the authority conferred on him by such superintendent, is performing the work directed by a precept issued out of any court as in this article provided, or ordered by the superintendent in accordance with such precept under the provisions of this chapter.

§636. **Provision for expense of executing precept.** In and about all preliminary proceedings, as well as the carrying into effect any order of the court or any precept issued by any court, the superintendent of buildings may make requisition upon the comptroller for such amount of money as shall be necessary to meet the expenses thereof; and upon the approval of the statement of expenses thereof by any justice of the court from which the said order or precept was issued, the comptroller shall pay the same, and for that purpose shall borrow and raise upon revenue bonds, issued as provided by law, the several amounts that may from time to time be required, which shall be reimbursed by the payment of the amount and interest at six per cent. out of any judgment obtained as hereinafter provided, when said amount and interest shall have been collected. **636**

§637. **Return of precept; reimbursement of city.** Upon compliance with any precept issued to him in an unsafe **637**

building proceeding, the superintendent of buildings shall make return thereof, with an indorsement of the action thereunder and the cost and expenses thereby incurred, to the justice then holding the special term of the court from which such precept issued, and thereupon said justice shall tax and adjust the amount indorsed upon said precept, and shall adjust and allow the disbursements of the proceeding, together with the preliminary expenses of searches and surveys thereof, which shall be inserted in the judgment in said action or proceeding, and shall render judgment for such amount, and for the sale of the said premises in the said notice named, together with all the right, title and interest that the person named in the said notice had in the lot, ground or land upon which the said building or structure was placed, at the time of the filing of a notice of lis pendens in the said proceedings, or at the time of the entry of judgment therein to satisfy the same, which shall be in the same manner and with like effect as sales under judgment in foreclosure of mortgages. The notice of lis pendens provided for in this section shall consist of a copy of said notice of survey and shall be filed in the office of a county clerk in the county where the property affected by such action, suit or proceeding is located.

638 §638. **Fallen buildings; building imminently dangerous.** 1. *Recovery of bodies from wrecked building.* In case of the falling of any building or part thereof in the city, where persons are known or believed to be buried under the ruins, the superintendent of buildings shall cause an examination of the premises to be made for the recovery of the bodies of the killed and injured. Whenever, in making such examination, it shall be necessary to remove any debris from the premises, the commissioners of the departments of docks, parks and street cleaning, and the superintendent of the appropriate bureau of highways, respectively, when called upon by the superintendent of buildings, shall cooperate with said superintendent in carrying out the purpose of this section and shall provide suitable and convenient places for the deposit of such debris.

2. *Temporary safeguards for dangerous buildings.* In case there shall be, in the opinion of the superintendent of buildings, actual and immediate danger of the falling of any building or part thereof so as to endanger life or property, he shall cause the necessary work to be done to render said building or part thereof temporarily safe until the proper proceedings provided for unsafe buildings by this article are instituted.

3. *Vacating buildings; closing streets and sidewalks.* The superintendent of buildings is hereby authorized and

empowered in such cases, and also where any building or part thereof has fallen and life is endangered by the occupation thereof, to order and require the inmates and occupants of such building or part thereof to vacate the same forthwith, and the superintendent may, when necessary for the public safety, temporarily close sidewalks, streets, buildings, structures and places adjacent to such building or part thereof, and prohibit the same from being used. The police commissioner, when called upon by the superintendent of buildings to co-operate, shall enforce such orders or requirements.

4. *Laborers and materials.* For the purposes of this section, the superintendent of buildings shall employ such laborers and materials as may be necessary to perform said work as speedily as possible.

§639. **Emergency fund.** 1. *Sources.* The corporation counsel shall, on the first day of each and every month, render to each superintendent of buildings an account of and pay over to him the amount of such penalties and costs received by him, together with his bill for all necessary disbursements incurred or paid in said suits, keeping a separate account for each superintendent. Each superintendent shall pay over monthly the amount of such penalties and costs so collected to the comptroller, as a fund for the use and benefit of his bureau. 639

2. *Purposes.* The fund aforesaid shall be used for the purpose of paying expenses incurred by the several superintendents of buildings under §638 of this chapter, and also for the purpose of carrying into effect any order or precept issued by any court, judge or justice to any superintendent of buildings. Upon the requisition of the superintendent having jurisdiction the comptroller shall pay such sums as may be allowed and adjusted by any court of record for such purposes.

Article 32

Enforcement of Chapter

(In Effect November 29, 1915)

§650. **Notice of requirements or of violations.** 1. *Issue.* All notices of the violation of any of the provisions of this chapter, and all notices required or authorized by 650

this chapter, directing any thing to be done, including notices that any building, structure, premises, or any part thereof, is deemed to be unsafe or dangerous, shall be issued by the superintendent of buildings, and shall have his name affixed thereto.

2. *Contents.* Each such notice or order, in addition to the statement of requirements, shall contain a description of the building, premises or property affected.

3. *Personal service.* All such notices, and any notice or order issued by any court in any proceeding, instituted pursuant to this chapter, to restrain or remove any violation, or to enforce compliance with any provision or requirement of this chapter, may be served by delivering to and leaving a copy of the same with any person violating, or who may be liable under any provisions of this chapter, or who may be designated as provided in subdivision 4 of §653 of this article. They may be served by any officer or employee of the bureau of buildings, or by any person authorized by the said bureau.

4. *Notice by posting.* If the person to whom such order or notice is addressed cannot be found within The City of New York after diligent search shall have been made for him, then such notice or order may be served by posting the same in a conspicuous place upon the premises where such violation is alleged to have been placed or to exist, or to which such notice or order may refer, or which may be deemed unsafe or dangerous, and also depositing a copy thereof in a post-office in The City of New York, inclosed in a sealed, postpaid wrapper addressed to said person at his last known place of residence, which shall be equivalent to a personal service of said notice or order upon all parties for whom such search shall have been made, whether residents or non-residents of the State of New York.

651 §651. Emergency measures. 1. *Stopping work; vacating and securing building.* In case there shall be, in the opinion of the superintendent of buildings, danger to life or property by reason of any defective or illegal work in violation of or not in compliance with any of the provisions or requirments of this chapter, the superintendent, or such person as may be designated by him, shall have the right and he is hereby authorized and empowered to order all further work to be stopped in and about said buliding, and to require all persons in and about said building forthwith to vacate the same, and to cause such work to be done in and about the building as in his judgment may be necessary to remove any danger therefrom.

2. *Closing street temporarily.* The superintendent of buildings may, when necessary for the public safety, temporarily close the sidewalks, streets, buildings, structures or places adjacent to said building or part thereof, and the police commissioner, or any of his subordinates, when called upon by the said superintendent of buildings to co-operate, shall enforce all orders or requirements made under this section.

§652. Judicial remedies. 1. *Action or proceeding, generally.* 652
Whenever the superintendent of buildings is satisfied that any building or structure, or any portion thereof, or any drainage or plumbing, the erection, construction or alteration, execution or repair of which is regulated, permitted or forbidden by this chapter, is being erected, constructed, altered or repaired, or has been erected, constructed, altered or repaired, in violation of, or not in compliance with, any of the provisions or requirements of this chapter, or in violation of any detailed statement of specifications or plans submitted and approved thereunder, or of any certificate or permit issued thereunder, or that any provision or requirement of this chapter, or any order or direction made thereunder has not been complied with, or that plans and specifications for plumbing and drainage have not been submitted or filed as required by this chapter, the superintendent may, in his discretion, through the corporation counsel, institute any appropriate action or proceeding at law or in equity to restrain, correct or remove such violation, or the execution of any work thereon, or to restrain or correct the erection or alteration of, or to require the removal of, or to prevent the occupation or use of, the building or structure erected, constructed, or altered, in violation of, or not in compliance with, any of the provisions of this chapter, or with respect to which the requirements thereof, or of any order or direction made pursuant to any provisions contained therein, shall not have been complied with. Any person who shall maintain or continue any building or structure, or any portion thereof, or any drainage or plumbing, in violation of any of the provisions of this chapter, after having been duly notified as in this chapter provided that such building or structure, or any portion thereof, or that such drainage or plumbing is in violation of any provision of this chapter, shall be subject to any action or proceeding and any penalty that is provided in this article for the commission of the violation.

2. *Corporation counsel to act.* The corporation counsel shall institute any and all actions and proceedings, either legal or equitable, that may be appropriate or necessary for the enforcement of the provisions of this chapter.

3. *Courts having jurisdiction.* All courts of civil jurisdiction in the city shall have cognizance of and jurisdiction over any and all suits and proceedings authorized by this chapter to be brought for the recovery of any penalty or the enforcement of any provision of this chapter, and shall give preference to such suits and proceedings over all others. No court shall lose jurisdiction of any action hereunder by reason of a plea that the title to real estate is involved; provided the object of the action is to recover a penalty for the violation of any of the provisions of this chapter. All civil courts in said city are hereby invested with full legal and equitable jurisdiction to hear, try and determine all such actions and proceedings, and to make appropriate orders and render judgment therein according to law, so as to give force and effect to the provisions of this chapter.

4. *Restraining order.* In any such action or proceeding the city may, in the discretion of the superintendent of buildings and on his affidavit setting forth the facts, apply to any court of record in said city or to a judge or justice thereof, for an order enjoining and restraining all persons from doing, or causing or permitting to be done, any work in or upon such building or structure, or in or upon such part thereof as may be designated in said affidavit, or from occupying or using said building or structure, or such portion thereof as may be designated in said affidavit, for any purpose whatever, until the hearing and determination of said action and the entry of final judgment therein. The court, or judge or justice thereof, to whom such application is made, is hereby authorized forthwith to make any or all of the orders above specified, as may be required in such application, with or without notice, and to make such other or further orders or directions as may be necessary to render the same effectual. No undertaking shall be required as a condition to the granting or issuing of such injunction order, or by reason thereof.

5. *Judgment.* All courts in which any action or proceeding is instituted under this chapter shall, upon the rendition of a verdict, report of a referee, or decision of a judge or justice, render judgment in accordance therewith.

6. *Lien of judgment.* Any judgment rendered in an action or proceeding instituted under this chapter shall be and become a lien upon the premises named in the complaint in such action, to date from the time of filing a notice of lis pendens in the county clerk's office of the county, wherein the property affected by such action, suit or proceeding, is located. Every such lien may be enforced against said property, in every respect, notwithstanding the same may be transferred subsequent to the filing of the said notice.

7. *Lis pendens.* The notice of lis pendens referred to in this section shall consist of a copy of the notice issued by the superintendent of buildings, requiring the removal of the violation and a notice of the suit or proceedings instituted, or to be instituted thereon. Such notice of lis pendens may be filed at any time after the service of the notice issued by the superintendent as aforesaid; provided he may deem the same to be necessary, or is satisfied that the owner of the property is about to transfer the same to avoid responsibility for having violated a provision of this chapter. Any notice of lis pendens filed pursuant to the provisions of this chapter may be vacated and cancelled of record upon an order of a justice of the court in which such suit or proceeding was instituted or is pending, or upon the consent in writing of the corporation counsel. The clerk of the county where the notice is filed, is hereby directed and required to mark any such notice of lis pendens, and any record or docket thereof, as vacated and cancelled of record, upon the presentation and filing of a certified copy of an order or of the consent, as aforesaid.

8. *Costs.* In no case shall a bureau of buildings, or any officer thereof, of the city, be liable for costs in any action, suit or proceeding that may have been, or may hereafter be, instituted or commenced in pursuance of this chapter.

9. *Officers not liable for damages.* No officer of a bureau of buildings, acting in good faith and without malice, shall be liable for damages by reason of anything done in any action or proceeding instituted under any provision of this chapter, or by reason of any act or omission in the performance of his official duties.

§653. Judicial orders. 1. *To comply with building notices.* In case any notice or direction authorized to be issued by this chapter is not complied with within the time designated therein, the city, by the corporation counsel, may, at the request of the superintendent of buildings, apply to the Supreme Court, at a special term thereof, for an order directing the superintendent to proceed to make the alterations or remove the violation, as the same may be specified in said notice or direction. 653

2. *To vacate for violations.* Whenever any notice or direction so authorized shall have been served as directed in this article, and the same shall not have been complied with within the time designated therein, the corporation counsel shall, at the request of the superintendent of buildings, in addition to, or in lieu of any other remedy provided for by this chapter, apply to the Supreme Court, at a special term thereof, for an order directing the superintendent to vacate such building or premises, or so much thereof as he

may deem necessary, and prohibiting the same to be used or occupied for any purpose specified in said order until such notice shall have been complied with.

3. *Responsibility of lessees or occupants.* In case any of the notices or orders of the court herein mentioned shall be served upon any lessee or party in possession of the building or premises therein described, it shall be the duty of the person upon whom such service is made to give immediate notice to the owner or agent of the building or premises named in the notice, if such person shall be within the limits of the city, and his residence be known to such person, and, if not within the city, by depositing said notice in any post-office in the city, properly inclosed in a post-paid wrapper addressed to such owner or agent at his then known place of residence.

4. *Designation by an owner of a building.* Any owner of real estate or of a building thereon may execute and acknowledge a written designation of a resident of said city, as a person upon whom may be served, any notice of violation, notice to make safe, or notice of survey, a summons, a mandate, or any paper or process, issued under a provision of this chapter, and may file the same, with the written consent of the person so designated, duly acknowledged, in the office of the superintendent of buildings. The designation must specify the location of the property with respect to which the designation is made and the residences and places of business of the person making it and the person designated. It shall remain in force during the period specified therein, if any, or until revoked by the death or legal incompetency of either of the parties, or by the filing of a revocation by either of the parties, duly acknowledged and indorsed with the consent of the superintendent of buildings. The superintendent of buildings shall file and index each designation and shall note, upon the original designation and index, the filing of a revocation. While the designation remains in force, as prescribed in this section, a notice of violation, notice to make safe or notice of survey, a summons, a mandate, or any paper or process under the provisions of this chapter, or either of the same, shall be served upon the person so designated, in like manner and with like effect, as if it were served personally upon the person making the designation, notwithstanding his presence in the city.

5. *Reimbursement of city for expenses.* The expenses and disbursements incurred in the carrying out of any order issued as provided in subdivision 2 of this section, shall become a lien upon the building or premises named in the order, from the time of filing of a copy of the said order, with a notice of the pendency of the action or proceeding

as provided in this chapter, taken thereunder, in the office of the clerk of the county where the property affected by such action, suit or proceeding is located; and the Supreme Court, to whom application shall be made, is hereby authorized and directed to grant any of the orders above named, and to take such proceedings as shall be necessary to make the same effectual, and any justice to whom application shall be made is hereby authorized and directed to enforce such lien in accordance with the mechanics' lien laws applicable to the city.

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§654. **Penalties.** 1. *General.* Except as hereinafter provided with respect to the amount of the penalty the owner of any building, structure or part thereof, or wall, or any platform, staging or flooring to be used for standing or seating purposes, or the owner of the land where any violation of this chapter shall be placed, or shall exist, and any architect, builder, plumber, carpenter, mason or other person who may be employed or assist in the commission of any such violation, and any and all persons who shall violate any of the provisions of this chapter or fail to comply therewith, or any requirement thereof, or who shall violate or fail to comply with any detailed order or rules made thereunder, or who shall build in violation of any detailed statement of specifications or plans, submitted and approved thereunder, shall severally, for each and every such violation and non-compliance, respectively, forfeit and pay a penalty in the sum of not less than ten dollars nor more than fifty dollars.

2. *Heating plant and fire prevention violations.* Any person who shall violate any of the provisions of this chapter, as to the construction of chimneys, fireplaces, flues, hot-air pipes and furnaces, or who shall violate any of the provisions thereof relating to the framing or trimming of timbers, girders, beams, or other woodwork in proximity to chimney flues or fireplaces, shall forfeit and pay a penalty in the sum of one hundred dollars.

3. *Continuing violation, after notice.* Any person who having been served with a notice as in this chapter prescribed, to remove any violation, or comply with any requirement of this chapter, or with any order or rule made thereunder, shall fail to comply with said notice within ten days after such service or shall continue to violate any requirement of this chapter in the respect named in said notice shall pay a penalty of not less than fifty dollars nor more than two hundred and fifty dollars.

4. *Jurisdiction of penalty actions.* For the recovery of any said penalty or penalties an action may be brought in any municipal court, or court of record, in said city in the name

of the city; and whenever any judgment shall be rendere therefor, the same shall be collected and enforced, as pr scribed and directed by the code of civil procedure of th state of New York.

5. *Discontinuance of action upon removal of violatio* If any violation shall be removed or be in process of remov within ten days after the service of a notice as in th chapter prescribed, the liability of such penalty shall ceas and the corporation counsel, on request of the superintende of buildings, shall discontinue any action pending to recov the same, upon such removal or the completion there within a reasonable time.

6. *Remission of penalty.* The superintendent of building through the corporation counsel, is hereby authorized, in h discretion and upon good and sufficient cause being show therefor, to remit any penalty which any person may hav incurred, or may hereafter incur, under any of the pr visions of this chapter; but no such penalty shall be remitte until the violation shall have been removed. Said superi tendent is further authorized in his discretion to remit an costs allowed or obtained in any penalty suit or any oth action or proceeding instituted under the provisions of th article.

655 §655. **When violation is a misdemeanor.** Any perso who shall receive and fail to comply with any written pe emptory order of the superintendent of buildings issue only when an immediate compliance with such order is e sential to the public peace or safety, within the time specifie in such order, shall be guilty of a misdemeanor.

ELEVATOR REGULATIONS

At a conference of the superintendents of buildings the following regulations were adopted to apply uniformly to the five Boroughs of the City of New York. These regulations became effective in the Borough of Manhattan on September 1, 1911.

All elevators installed or altered on or after that date shall conform to these regulations, except that in cases where contracts for the installation of new elevators or the alterations of existing elevators have been made prior to that date, the same may be made to conform to the regulations now in force, provided, however, that notice of such contracts made prior to September 1, 1911, shall be sent to the superintendent of buildings before that date.

Regulations Governing the Construction, Inspection and Operation of Elevators in the Borough of Manhattan.

1. The term "elevator" as used in these regulations shall include all elevators or lifts used for the carrying of passengers or employees. The term "dumbwaiter" shall include such special form of elevator, the dimensions of which do not exceed nine square feet in horizontal section, and four feet in height, and which is used for the conveyance of small packages and merchandise. So far as practicable, these regulations shall also apply to escalators. Where freight elevators are placed within the same shaft enclosure as passenger elevators, such elevators must conform in all particulars to the regulations for the construction, inspection and operation of passenger elevators. All other freight elevators must comply with sections 3, 4, 6, 7, 10, 12, 13, 14, 15, 17, 18, 19, 20, 21 and 22 of the regulations for passenger elevators. Any hand power elevator having a rise of more than thirty-five feet shall comply with all the requirements of these regulations. No belt elevators driven from a countershaft shall be installed for passenger service.

2. All elevators must be inspected as often as possible by an inspector of the bureau of buildings, known and designated as inspector of elevators, in accordance with the rules and regulations of the bureau prescribing the duties and governing the actions of the employees.

3. Before any elevator shall hereafter be installed or altered in any building, the owner or his agent, architect or contractor shall submit, on appropriate blanks furnished therefor, to the superintendent of buildings, an application in triplicate stating the construction and mode of operation of such elevator to be installed or altered and shall obtain

his approval therefor. This application shall be accompanied by such plans and drawings as may be necessary. Before any such elevator shall be put into service, the same shall have been duly tested and inspected under the supervision of an inspector of elevators and a certificate of such inspection issued and a formal approval obtained from the superintendent of buildings. In making any changes or alterations to elevator shafts, rails, overhead machinery or power, all the work changed or altered must be made to conform to the present law and regulations.

4. The owner, lessee, manager or other person having charge or control of any elevator now in operation and the manufacturer of any such elevator hereafter placed in any building, shall cause to be fastened in a conspicuous place in said elevator a metal plate, having suitable raised letters on same, which shall designate the number of pounds which said elevator shall be permitted to carry, but in no case shall a carrying capacity of less than 75 pounds per square foot of platform area inside the car be permitted on any passenger elevator.

4-a. In every elevator used for passenger service the superintendent of buildings shall cause to be posted and maintained in a conspicuous place, for the guidance and information of operators and passengers, such rules, instructions and regulations as he may deem necessary to insure public safety.

5. Every elevator, except full automatic push button elevators in private dwellings occupied by one family, must be in charge of a competent operator of reliable and industrious habits, not less than eighteen years of age, with at least one month's experience in running an elevator under the instruction of a competent person. In case the superintendent of buildings shall become satisfied that the person engaged in running any elevator is incompetent or disqualified from any cause to continue to run the same, the owner or person managing or controlling the elevator shall, upon notice from the superintendent of buildings, at once replace the said operator by a competent operator.

6. Elevator shafts and doors of same in non-fireproof buildings must be constructed fireproof and made solid for their full height. Any lights that may be desired in these doors must be provided with wire glass. No one pane of wire glass shall exceed five square feet in area. No more than one opening in the elevator shaft will be allowed on each floor, and all openings in the several stories

shall be one above the other, unless the elevator is used exclusively for freight purposes, except that where the operating device of the elevator is so placed that operator can readily control all doors without leaving the car control, more than one opening will be permitted on a floor.

7. In all cases where the law or regulations permit grille work enclosing the shaft or car, it shall be of substantial material and construction, properly braced and carried the full height of openings, and there shall be not more than one and one-half inch space between any two members of said grille work except where plain straight bars are used, not filled in with scroll, when there shall not be more than one inch space between members.

8. All doors or gates leading to any elevator shaft shall be locked or bolted on the shaft side so as to be opened only by the operator of the car, and said shaft doors or gates and car gates shall be closed before the car is put in motion.

9. All entrances to elevator cars must be provided with substantial folding or sliding gates or doors, and where floor tracks are used the same must be countersunk. All folding gates over three feet wide at entrance to shaft or car shall have top and bottom centre braces.

10. All counterweights shall have their sections strongly bolted together. There shall not be less than three feet clearance between the top of counterweigths and the underside of overhead beams when the car is resting on the bumpers. No continuous forged straps shall be permitted on counterweights.

11. Where counterweights run in the same shaft as the car they must be protected with a substantial screen of iron from the top of rail to a point fifteen feet below, except where the plunger or traction type of elevator is used.

12. All elevators, except direct plunger elevators and freight elevators having a rise of fifteen feet or less, shall have a governor or speed regulator properly connected to the safety devices on the car, in such a manner that the car will be brought to rest with an easy and gradual stop, or in a distance not greater than eight feet for a speed of seven hundred feet per minute, except that on elevators having a speed of 100 feet per minute or less safeties of the instantaneous type may be used. Every elevator operating on alternating current electricity shall be equipped with an electro mechanical brake, or some such device as will insure the

brake being applied at any time should the current be interrupted from the service. All electric car controlling devices shall be self-centering and self-locking in inoperative position. All hoisting machines of the drum type shall have an automatic slack cable device that will stop the machine if the hoist or drum weight cables shall become slack from any cause. All elevators shall have upper and lower limit devices on the machine or in the shaft. No elevator shall be used for the carrying of safes or other material of a greater weight than the normal lifting power of such elevator, unless the car is equipped with a locking device which will hold it fixed at any landing independent of the rope while such safe or other material is being loaded or unloaded.

13. The car of all elevators must be constructed of incombustible materials, except that interior trim and flooring may be of hardwood. There shall be not more than one and one-quarter inches space between the floor of the car and the floor saddles, and where the saddles project into the shaft the same shall be properly beveled on the underside. The underside of the car must be of incombustible materials. Cars for all elevators shall be properly lighted.

14. All guide rails for both car and counterweights shall be of iron or steel, and shall be fastened to the sides of the shaft with wrought or cast-iron brackets, so spaced that the guide rails will be rigid.

15. There shall be not less than two cables independently connected to the car and to each set of counterweights. The lifting and weight cables shall have at least one full turn of the cable on the drum when they have reached the limit of travel. Such cables shall be of a diameter to insure a factor of safety of five. All cables used in the operation of elevators shall be of steel, iron or "Marlin" covered. Where overhead machines are installed the use of equalizer arms will be permitted on the car and counterweights.

16. No elevator shall be permitted to have attached above, below or on the inside of the car a freight compartment or similar device.

17. Immediately under the sheaves at the top of every elevator shaft in any building there shall be provided and placed a substantial grating of iron or steel having not more than one and one-half inch space between any two members of said grating, and of such construction as shall be approved by the bureau of buildings.

18. A clear space of not less than three feet must be provided between the bottom of the shaft and the lowest point of the underside of the car floor when the car is at

its lowest landing, and between the top of the cross-head of the car and the underside of the overhead grating when the car is at its top landing, provided that for elevators of greater speed than 350 feet per minute, the distance between the top of the cross-head of the car and the underside of the overhead grating, when the car is at its top landing, shall be not less than five feet, except in the case of elevators where the rise does not exceed thirty feet and the speed of the elevator is not more than one hundred feet per minute, such clear space at the top of the shaft shall be not less than two feet between the top of the car and the underside of the overhead grating when the car is at its top landing.

19. All parts of the elevator machinery must be properly enclosed by suitable partitions of incombustible materials, and such inclosures must be lighted. Free and safe access must be provided to all parts of elevator machinery. Where the machine is located at the bottom of the shaft the same shall be protected with a substantial pit pan.

20. The speed of all elevators must not exceed five hundred feet per minute, except that express elevators may run seven hundred feet per minute for that portion of the shaft in which no intermediate stops are made. Express elevators shall mean only such elevators as run eighty feet or more without stop. The speed of mechanically controlled electric elevators must not exceed one hundred and fifty feet per minute.

21. At the bottom of all elevator shafts there shall be placed substantial buffer springs for car and counterweights. Where the car does not travel to the bottom of the shaft the bumper beams shall be supported independent of the car rails. All plunger or traction type of elevators shall be provided with substantial oil buffers at the bottom of the shaft for both car and counterweight.

22. The carrying beams for all machinery shall be of wrought iron or steel.

23. Every passenger elevator shall have a trap door in the top of the car of such size as to afford easy egress for passengers, or where two cars are in the same shaft such means of egress may be provided in the side of each car.

24. Any infraction of these regulations or failure to comply with their provisions after due notice from the superintendent of buildings shall be treated the same as a violation of the building code, and shall subject the owner to the same penalties as prescribed in section 150 (new section 654), of the building code for such violation.

RULES AND REGULATIONS FOR PLUMBING AND DRAINAGE, WATER SUPPLY, GAS PIPING AND VENTILATION OF BUILDINGS

Adopted by the superintendents of buildings of The City of New York, and published in accordance with the provisions of section 141 of the building code and section 409 of the Greater New York Charter as amended. Effective April 23, 1912.

Once in each year, every employing or master plumber carrying on his trade, business or calling in the city of New York shall register his name and address at the office of the bureau of buildings in the borough in which his place of business is located, under such rules and regulations as said bureau shall prescribe, in accordance with section 141 (new section 604) of the building code of the city of New York.

A plumber proposing to do work in a borough other than that in which he is registered shall present his certificate at the office of the bureau of buildings in that borough before commencing work, so that the fact of his having been properly registered may be recorded.

Filing of Drawings, Descriptions, Etc.

1. Drawings and triplicate descriptions, on forms furnished by the bureau of buildings for all plumbing and drainage, shall be properly filled in, and filed by the owner or architect in the said bureau. The plans must be drawn to scale in ink, on cloth, or they must be cloth prints of such scale drawings, and shall consist of such floor plans and sections as may be necessary to show clearly all plumbing work to be done, and must show partitions and methods of ventilating water-closet apartments.

2. The said plumbing and drainage shall not be commenced or proceeded with until said drawings and descriptions shall have been so filed and approved by the superintendent of buildings.

3. No modification of the approved drawings and descriptions will be permitted unless either amended drawings and triplicate descriptions, or an amendment to the original drawings and descriptions, covering the proposed change or changes, are so filed and approved by the superintendent of buildings.

4. The drainage and plumbing of all buildings, both public and private, shall be executed in accordance with the rules and regulations of the bureau of buildings.

5. Repairs or alterations of plumbing or drainage may be made without filing drawings and descriptions in the bureau

of buildings, but such repairs or alterations shall not be construed to include cases where new vertical lines or horizontal branches of soil, waste, vent or leader pipes are proposed to be used.

6. Notice of such repairs or alterations shall be given to the said bureau before the same are commenced in such cases as shall be prescribed by the rules and regulations of the said bureau, and the work shall be done in accordance with the said rules and regulations.

7. Where repairs or alterations, ordered by the board of health or tenement house department for sanitary reasons, include cases where new vertical and horizontal lines of soil, waste, vent or leader pipes are proposed to be used or old ones replaced, drawings and descriptions must be filed with and approved by the superintendent of buildings before same shall be commenced or proceeded with.

8. Repairs and alterations may comply in all respects with the weight, quality, arrangement and venting of the rest of the work in the building. Except when an existing soil, waste or vent line has been damaged by fire or other causes to the extent of 50 per cent. or more of its entire length, same must be replaced by new lines installed in accordance with the rules and regulations governing new lines.

9. No plumbing and drainage or any part thereof shall be commenced until the plumber who is to do the work shall sign the specifications and make affidavit that he is duly authorized to proceed with the work. Affidavit must give the name and address of owner and plumber, etc. No registered plumber shall sign the specifications and act as the agent for a plumber who has not obtained a certificate of competency from the examining board of plumbers as an employing or master plumber. A violation of this rule will be deemed sufficient reason by the superintendent of buildings of the cancellation of a certificate of registration, in accordance with chapter 803, Laws of 1896. (Amended Laws 1913, chapter 754).

10. One set of specifications will be received for not more than ten houses, and then only when on adjoining lots and houses are exactly alike.

11. Written notices must be given to the superintendent of buildings by the plumber when any work is begun, and at such times as the work is ready for inspection.

Definition of Terms.

12. The term "private sewer" is applied to main sewers that are not constructed by and under the supervision of the department of public works.

13. The term **"house sewer" is applied to** that part of the main drain or sewer extending from a point two feet outside of the outer front wall of the building, vault or area to its connection with public sewer, private sewer or cesspool.

14. The term "house drain" is applied to that part of the main horizontal drain and its branches inside the walls of the building, vault or area and extending to and connecting with the house sewer.

15. The term "soil line" is applied to any vertical line of pipe having outlets above the floor of first story for water closet connections.

16. The term "waste line" is applied to any vertical line of pipe having outlets above the first floor for fixtures other than water closet.

17. The term "vent pipe" is applied to any special pipe provided to ventilate the system of piping and to prevent trap siphonage and back pressure.

Materials and Workmanship.

18. All materials must be of the best quality, free from defects, and all work must be executed in a thoroughly workmanlike manner.

19. All cast-iron pipes and fitttings must be uncoated, sound, cylindrical and smooth, free from cracks, sand holes and other defects, and of uniform thickness, and of the grade known in commerce as "extra heavy."

20. Pipe, including the hub, shall weigh not less than the following average weights per linear foot:

Diameters.	Weights Per Linear Foot.
2 inches	5½ pounds
3 inches	9½ pounds
4 inches	13 pounds
5 inches	17 pounds
6 inches	20 pounds
7 inches	27 pounds
8 inches	33½ pounds
10 inches	45 pounds
12 inches	54 pounds

21. The size, weight and maker's name must be cast on each length of pipe.

22. All joints must be made with picked oakum and molten lead and be made gas-tight. Twelve (12) ounces of fine, soft pig lead must be used at each joint for each inch in the diameter of the pipe.

23. All wrought iron and steel pipe must be equal in quality to "standard" and must be properly tested by the manufacturer. All pipe must be lap-welded. No plain black or uncoated pipe will be permitted.

24. All wrought iron or steel water supply, vent, waste and soil pipes must be galvanized.

25. Where galvanized wrought iron or steel pipe is required the fittings used on same must also be galvanized.

26. Fittings for waste or soil and refrigerator waste-pipes must be the special extra heavy cast-iron recessed and threaded drainage fittings, with smooth interior waterway, and threads tapped, so as to give a uniform grade to branches of not less than one-fourth of an inch per foot.

27. Short nipples on wrought iron or steel pipe, where the unthreaded part of the pipe is less than one and one-half inches long, must be of the thickness and weight known as "extra heavy" or "extra strong."

28. The pipe shall not be less than the following average thickness and weight per linear foot:

Diameters.	Thicknesses.	Weigths Per Linear Foot.
1½ inches	.14 inches	2.68 pounds
2 inches	.15 inches	3.61 pounds
2½ inches	.20 inches	5.74 pounds
3 inches	.21 inches	7.54 pounds
3½ inches	.22 inches	9.00 pounds
4 inches	.23 inches	10.66 pounds
4½ inches	.24 inches	12.34 pounds
5 inches	.25 inches	14.50 pounds
6 inches	.28 inches	18.76 pounds
7 inches	.30 inches	23.27 pounds
8 inches	.32 inches	28.18 pounds
9 inches	.34 inches	33.70 pounds
10 inches	.36 inches	40.06 pounds
11 inches	.37 inches	45.02 pounds
12 inches	.37 inches	48.98 pounds

29. All brass pipe for soil, waste and vent pipes and solder nipples must be thoroughly annealed, drawn, brass tubing, of standard iron-pipe gauge.

30. Connections on brass pipe and between brass pipe and traps on iron pipe must not be made with slip joints or couplings. Threaded connections on brass pipe must be of the same size as iron pipe thread for same size of pipe and be tapered.

31. The following average thickness and weights per linear foot will be required:

Diameters.	Thicknesses.	Weights Per Linear Foot.
1½ inches	.14 inches	2.84 pounds
2 inches	.15 inches	3.82 pounds
2½ inches	.20 inches	6.08 pounds
3 inches	.21 inches	7.92 pounds
3½ inches	.22 inches	9.54 pounds
4 inches	.23 inches	11.29 pounds
4½ inches	.24 inches	13.08 pounds
5 inches	.25 inches	15.37 pounds
6 inches	.28 inches	19.88 pounds

32. Brass ferrules must be best quality, extra heavy, cast brass, not less than four inches long and two and one-quarter, three and one-half inches and four and one-half inches in diameter, and not less than the following weights:

Diameters.	Weights.
2¼ inches	1 pound 0 ounces
3½ inches	1 pound 12 ounces
4½ inches	2 pounds 8 ounces

33. One and one-half inch ferrules are not permitted.

34. Soldering nipples must be heavy cast brass or of brass pipe, iron pipe-size. When cast they must not be less than the following weights:

Diameters.	Weights.
1½ inches	0 pound 8 ounces
2 inches	0 pound 14 ounces
2½ inches	1 pound 6 ounces
3 inches	2 pounds 0 ounces
4 inches	3 pounds 8 ounces

35. Brass screw caps for cleanouts must be extra heavy, not less than one-eighth of an inch thick. The screw cap

must have a solid square or hexagonal nut, not less than one inch high, with a least diameter of one and one-half inches. The body of the cleanout ferrule must be at least equal in weight and thickness to the caulking ferrule for the same size of pipe.

36. Where cleanouts are required by rules and by the approved plans, the screw cap must be of brass. The engaging part must have not less than six threads of iron-pipe size and be tapered. Cleanouts must be of full size of trap up to four inches in diameter, and not less than four inches for larger traps.

37. The use of lead pipes is restricted to the short branches of the soil and waste pipes, bends and traps, roof connections of inside leaders.

"Short branches" of lead pipe shall be construed to mean not more than:

8 feet of 1½ inch pipe.
5 feet of 2 inch pipe.
2 feet of 3 inch pipe.
2 feet of 4 inch pipe..

38. All connections between lead pipes and between lead and brass or copper pipes must be made by means of "wiped" solder joint.

39. All lead waste, soil, vent and flush pipes must be of the best quality, known in commerce as "D" and of not less than the following weights per linear foot:

Diameters.	Weights Per Linear Foot.
1¼ inches (for flush pipes only)	2½ pounds
1½ inches	3 pounds
2 inches	4 pounds
3 inches	6 pounds
4 and 4½ inches	8 pounds

40. All lead traps and bends must be of the same weights and thicknesses as their corresponding pipe branches. Sheet lead for roof flashings must be six-pound lead, and must extend not less than six inches from the pipe, and the joint made watertight.

41. Copper tubing, when used for inside leader roof connections, must be seamless drawn tubing, not less than 22 gauge, and when used for roof flashings must be not less than 18 gauge.

42. Each building must be separately and independently connected with a public or private sewer, or cesspool, except where a building is located on the rear of the same lot with another building, when its plumbing and drainage system may be connected to the house-drain of the front building behind the house trap and fresh air inlet which shall be used for both buildings if sewer-connected; or may be connected to an existing cesspool of front house and be provided with a separate house trap and fresh air inlet.

43. Every building must have its sewer connections directly in front of the building, unless permission is otherwise granted by the Superintendent of Buildings.

44. Where there is no sewer in the street or avenue, and it is possible to construct a private sewer to connect in an adjacent street or avenue, a private sewer must be constructed. It must be laid outside the curb, under the roadway of the street.

45. Cesspools and privy vaults will be permitted only after it has been shown to the satisfaction of the superintendent of buildings that their use is absolutely necessary.

46. When allowed, they must be constructed strictly in accordance with the terms of the permit issued by the superintendent of buildings.

47. Cesspools must not be used as privy vaults nor can privy vaults be used as cesspools. Cesspools and privy vaults must be located at least 15 feet from any building and on the same lot as the building for w hich their use is intended. Walls of cesspools and privy vaults when constructed of brick must be 8 inches thick; if of stone, 18 inches thick. Bottoms of cesspools and privy vaults must be of stone concrete 6 inches thick. The entire interior surface of cesspools and privy vaults must be finished with a coating of Portland cement mortar 1 inch thick.

48. As soon as it is possible to connect with a public sewer, the owner must have the cesspool and privy vault emptied, cleaned and disinfected and filled with fresh earth, and have a sewer connection made in the manner herewith prescribed.

49. All pipe lines must be supported at the base on brick piers, or by heavy iron hangers from the cellar-ceiling beams, and along the line by heavy iron hangers at intervals of not more than ten feet.

50. All pipes issuing from extensions or elsewhere, which would otherwise open within 20 feet of the window of any building, must be extended above the top of any window

located within such distance. When a building exceeds in height that of an adjoining building, and windows or openings are cut in the wall on the lot line within 20 feet of the roof terminal of any soil, waste or vent line now in place or subsequently installed in the lower building, the owner of the higher building shall defray the expense of extending said soil, waste or vent lines above the roof of the higher building or shall himself make such alteration.

51. The arrangement of all pipes must be as straight and direct as possible. Offsets will be permitted only when unavoidable.

52. All pipes and traps should, where possible, be exposed to view. They should always be readily accessible for inspection and repairing.

53. In every building where there is a leader connected to the drain, if there are any plumbing fixtures, there must be at least one four (4) inch pipe extending above the roof for ventilation.

Yard, Area and Other Drains.

54. All yards, areas and courts exceeding 15 square feet in area must be drained into the sewer. A shaft open at the top not exceeding 25 square feet in area, and which cannot be connected in back of a leader, yard, court or area drain trap, may be drained into a publicly-placed, water-supplied, properly-trapped and vented slop sink.

55. These drains, when sewer-connected, must have connections not less than three inches in diameter. They should be controlled by one trap—the leader trap, if possible.

56. Floor drains will only be permitted when it can be shown to the satisfaction of the superintendent of buildings that their use is absolutely necessary and arrangements made to maintain a permanent water seal in the traps.

57. Cellar drains may be connected in back of and controlled by a leader, yard, court or area drain trap which need not be vented.

58. Subsoil drains should discharge into a sump or receiving tank, the contents of which if discharged by gravity may be discharged into a rain leader, yard, court or area drain behind the trap controlling same or may be discharged through a properly trapped and vented, water supplied receptacle. Where mechanical force is required to discharge the contents into the plumbing and drainage system, a proper automatic cut-off or check valve must be provided on the connection between house-drain and apparatus used for raising the contents of sump-pit.

59. The contents of settling chamber or dust receptacles for vacuum cleaners may be discharged into a Plumbing and Drainage system, the same as sub-soil drain sump-pits.

Leaders.

60. Every building shall be kept provided with proper metallic gutters and rain leaders for conducting water from all roofs in such manner as shall protect the walls and foundations from injury. In no case shall the water from any rain leader be allowed to flow upon the sidewalk or adjoining property, but the same shall be conducted by proper pipes to the sewer. If there be no sewer in the street upon which the building fronts, then the water from said leaders may be conducted by proper pipes laid below the surface of sidewalk to the street gutter, or may be conducted by extra heavy cast-iron pipe to a leeching cesspool located at least 20 feet from any building. No plumbing fixtures shall discharge into a leeching cesspool.

61. In side leaders must be made of cast iron, wrought iron or steel, with roof connections made gas and water tight by means of a heavy lead or copper-drawn tubing wiped to a brass ferrule or nipple caulked or screwed into the pipe.

62. Outside leaders may be made of sheet metal, but they must connect with the house drain by means of a cast-iron pipe extending vertically five feet above the grade level.

63. Leaders must be trapped with cast-iron running traps so placed as to prevent freezing.

64. Rain-water leaders must not be used as soil, waste or vent pipes nor shall any such pipe be used as a leader.

The House Sewer, House Drain, House Trap and Fresh Air Inlet.

65. Old house sewers can be used in connection with the new buildings or new plumbing only when they are found on examination by the plumbing inspector, to conform in all respects to the requirements governing new sewers.

66. When a proper foundation consisting of a natural bed of earth, rock, etc., can be obtained, the house sewer can be of earthenware pipe.

67. Where the ground is made or filled in, or where the pipes are less than three feet deep, or in any case where there is danger of settlement by frost or from any cause, and when cesspools are used, the house sewer must be of extra heavy cast-iron pipe, with lead-caulked joints.

68. No earthenware house-drain, when found in a leaky or defective condition, shall be repaired or replaced except with heavy cast-iron pipe.

69. The house drain and its branches must be of extra heavy cast-iron when underground, and of extra heavy cast-iron or galvanized wrought iron or steel when above ground.

70. The house drain must properly connect with the house sewer at a point two feet outside of the outer front vault or area wall of the building. An arched or other proper opening must be provided for the drain in the wall to prevent damage by settlement.

71. The house drain if above the cellar floor must be supported at intervals of ten feet by eight-inch brick piers or suspended from the floor beams, or be otherwise properly supported by proper hangers placed not more than 10 feet apart.

72. No steam-exhaust, boiler blow-off or drip-pipe shall be connected with the house-drain. Such pipes must first discharge into a proper condensing tank, and from this a proper outlet to the house sewer outside of the building must be provided. In low pressure steam systems the condensing tank may be omitted, but the waste connections must be otherwise as above required.

73. The house-drain and house-sewer must be run as direct as possible, with a fall of at least one-quarter inch per foot, all changes in direction made with proper fittings, and all connections made with Y branches and one-eighth and one-sixteenth bends.

74. The house sewer and house-drain must be at least 4 inches in diameter when receiving the discharge of a water-closet. Where rain leaders are connected to the plumbing system, the sizes of house sewer, house drain and leader connections shall be computed according to the square feet of area drained into them. No house sewer or house-drain shall be of less diameter than the largest line of pipe connected thereon. The following table is the maximum area allowed to drain into pipes of given diameter:

Diameter of Pipe.	Fall ¼ Inch Per Foot.	Fall ½ Inch Per Foot.
3	1,200 square feet.	1,500 square feet.
4	2,500 square feet.	3,200 square feet.
5	4,500 square feet.	6,000 square feet.
6	8,000 square feet.	10,000 square feet.
7	12,400 square feet.	15,600 square feet.
8	18,000 square feet.	22,500 square feet.
9	25,000 square feet.	31,500 square feet.
10	41,000 square feet.	59,000 square feet
12	69,000 square feet.	98,000 square feet.

75. Full size Y and T branch fittings for handhole clean out must be provided where required on house-drain and its branches. No clean-out need be larger than 6 inches in diameter.

76. An iron running trap must be placed in the house drain near the front wall of the house, and on the sewer side of all connections, except a Y fitting used to receive the discharge from an automatic sewage lift, oil separator or a drip-pipe where one is used. If placed outside of the house or below the cellar floor, it must be made accessible in a brick manhole, the walls of which must be eight inches thick, with an iron or flagstone cover. When outside the house it must never be less than three feet below the surface of the ground.

77. When the plumbing system of any building is altered by the addition of a new soil, waste or vent line, and no house trap and fresh air inlet or leader trap exists on the house-drain, same shall be provided.

78. The house trap must have two cleanouts, with brass screw cap ferrules caulked in.

79. A fresh air inlet pipe must be connected with the house-drain just inside of the house trap and extended to the outer air, terminating with a return bend, with open end one foot above the grade at most available point to be determined by the superintendent of buildings and shown on plans. The fresh air inlet pipe must be of the same diameter as the house-drain. An automatic device approved by the superintendent of buildings may be used, when set in a manner satisfactory to him.

80. No curb box or similar device with grating placed in sidewalk will be permitted for fresh air inlets.

Soil and Waste Lines.

81. All main, soil, waste or vent pipes must be of iron, steel or brass.

82. When they receive the discharge of fixtures on any floor above the first, they must be extended in full calibre at least one foot above the roof coping, and well away from all shafts, windows, chimneys or other ventilating openings. When less than four inches in diameter, they must be enlarged to four inches at a point not less than one foot below the roof surface by an increaser not less than nine (9) inches long.

83. No caps, cowls or bends shall be affixed to the top of such stack.

84. In all buildings, wire baskets must be securely fastened into the opening of each pipe in an accessible position. When roofs are used for drying purposes or roof gardens, all pipes shall be extended to a height of seven feet.

85. Necessary offsets above the highest fixture branch must not be made at an angle of less than forty-five degrees to the horizontal.

86. Soil and waste pipes must have proper Y or TY branches for all fixture connections.

87. No connection to lead branches for water-closets or slop sinks will be permitted, except the required branch vent.

88. Branch soil and waste pipe must have a fall of at least one-quarter inch per foot.

89. Short TY branches will be permited on vertical lines only. Long one-quarter bends and long TYs are permitted. Short one-quarter bends and double hubs, short roof increasers and common offsets, and bands and saddles, are prohibited.

90. The diameters of soil and waste pipes must not be less than those given in the following table:

Main soil stacks	4 inches
Main soil stacks for water-closets on 5 or more floors	5 inches
Branch soil pipes	4 inches
Main waste stacks	2 inches
Main waste stacks for kitchen sinks on 5 or more floors	3 inches
Branch wastes for slop sinks	3 inches
Branch waste-pipes for laundry tubs	1½ inches
When set in ranges of three	2 inches
Branch waste for kitchen sinks	2 inches
Branch waste for urinals	2 inches
Branch waste for other fixtures	1½ inches

Vent Pipes.

91. All traps must be protected from siphonage and backpressure and the drainage system ventilated by special lines of vent pipes.

92. All vent pipe lines and main branches must be of iron, steel or brass. They must be increased in diameter and extended above the roof as required for waste-pipes. They may be connected with the adjoining soil or waste line well above the highest fixture, but this will not be permitted when there are fixtures on more than six floors.

93. All offsets must be made at an angle of not less than forty-five degrees to the horizontal, and all lines must be connected at the bottom with a soil or waste pipe or the drain in such a manner as to prevent the accumulation of rust scale.

94. Branch vent pipes shall be kept above the top of all connecting fixtures, so as to prevent the use of vent pipes as soil pipes or waste-pipes. Branch vent pipes should be connected not less than six inches nor more than two feet from crown of trap or side of lead bend.

95. Vent connections for water-closets and slop sinks must be made from the branch soil or waste-pipe just below the trap of the fixture, and this branch vent pipe must be so connected as to prevent obstruction and no waste-pipe connected between it and the fixtures. Earthenware traps must have no vent horns.

96. No sheet metal, brick or other flue shall be used as a vent pipe.

97. The sizes of vent-pipes throughout must not be less than the following: For main vents, two inches in diameter, for water-closets on three or more floors, three inches in diameter; for other fixtures on less than seven floors, two inches in diameter; three-inch vent pipe will be permitted for less than nine stories; for more than eight and less than sixteen stories, four inches in diameter; for more than fifteen and less than twenty-two stories, five inches in diameter; for more than twenty-one stories the size of vent pipe shall be determined by the superintendent of buildings.

For fixtures other than water-closets and slop sinks and for more than eight stories, vent pipes may be one inch smaller in diameter than above stated.

For long branch vent pipes over 10 feet in length but not exceeding 25 feet, two inches in diameter; when over 25 feet in length, but not exceeding 50 feet, three inches in diameter. No branch vent pipe can exceed 50 feet in length, nor can any main vent be of less diameter than the largest branch vent connecting to same.

98. When plumbing fixtures installed in any building are arranged in groups or batteries and the number of branch vents from the traps of fixtures connecting to any main branch vent exceeds the number and size given in the following table, a 3-inch main branch vent must be provided for the additional vent connections.

2—1½ inch branches on a 1½ inch main branch.
4—2 inch branches on a 2 inch main branch.

7—1½ inch branches on a 2 inch main branch.
2—2 } inch branches on a 2 inch main branch.
4—1½ }
1—2 } inch branches on a 2 inch main branch.
5—1½ }

Traps.

99. No form of trap will be permitted to be used unless it has been approved by the superintendent of buildings.

100. No mason's cesspoll, bell, pot, bottle or D-trap will be permitted, nor any form of trap that is not self-cleaning, nor that has interior chamber or mechanism, nor any trap except earthernware ones that depend upon interior partitions for a seal. Backwater or tide valves will only be permitted when it can be shown to the satisfaction of the superintendent of buildings that their use is absolutely necessary and of a type as approved by him.

101. Every fixture must be separately trapped by a water-sealing trap placed as close to the fixture outlet as possible, and no trap shall be placed more than 2 feet 0 inches from any fixture.

102. A set of not more than three wash trays may connect with a single trap, or into the trap of an adjoining sink, provided both sink and tub waste outlets are on the same side of the waste line, and the sink is nearest the line. When so connected, the waste-pipe from the wash-trays must be branched in below the water-seal.

103. The discharge from any fixture must not pass through more than one trap before reaching the house-drain.

104. All traps must be well supported and set true with respect to their water levels.

105. All fixtures, other than water-closets and urinals, must have strong metallic strainers or bars over the outlets to prevent obstruction of the waste-pipe.

106. All exposed or accessible traps, except water-closet traps, must have brass trap screws for cleaning the trap placed on the inlet side, or below the water level.

107. All iron traps for house-drain, yard and other drains and leaders must be running traps with handhole cleanouts of full size of the traps, when same are less than five (5) inches. All traps under ground must be made accessible by brick manholes with proper covers.

108. Overflow pipes from fixtures must in all cases be connected on the inlet side of traps.

109. All earthenware traps must have approved heavy brass floor plates properly secured to the branch soil pipe

and bolted to the trap flange, and the joint made gas-tight. The use of rubber washers for floor connections is prohibited. All floor flanges must be set in place and inspected before any water-closet is set thereon.

110. No trap shall be placed at the foot of main soil and waste pipe lines.

111. Plunge baths should be provided with a trap at least four inches in diameter, the waste from trap to bath to be reduced two diameters and this waste to be controlled by a gate valve. Overflow pipes, if provided, must be connected on inlet side of trap. Traps must be ventilated by a separate vent line extended above roof. Vent lines shall be the same size as trap and waste connection.

112. The sizes for traps must not be less than those given in the following table:

Traps for water-closets	4	inches in diameter.
Traps for slop sinks	3	inches in diameter.
Traps for kitchen sinks	2	inches in diameter.
Traps for wash trays	2	inches in diameter.
Traps for urinals	2	inches in diameter.
Traps for shower-baths	2	inches in diameter.
Traps for other fixtures	1½	inches in diameter.

Traps for leaders, area, floor and other drains must be at least 3 inches in diameter.

113. Dental cuspidors must be separately trapped by a trap of at least 1½ inches in diameter, properly vented and placed as close to the fixtures as possible. The connection between trap and cuspidor may be ¾ inch in diameter.

114. No plumbing fixtures, except bar sinks, soda fountains or drinking fountains, shall be installed with an indirect waste connection to the plumbing and drainage system. The waste of every bar-sink, soda-fountain and drinking-fountain, if not directly connected, must discharge over a properly water-supplied, trapped and vented sink. The main waste lines shall be 2 inches in diameter, and the branches to fixtures at least 1½ inches in diameter. Drinking fountains must be trapped and the waste line extended through the roof. No vent connections need be provided.

Safe and Refrigerator Waste Pipes.

115. Safe and refrigerator waste-pipes must be of galvanized iron, and be not less than 1¼ inches in diameter nor larger than 1½ inches in diameter with ppe branches at least 1 inch in diameter with strainers over each inlet.

116. Safe and refrigerator waste-pipes shall not be trapped. They must discharge over a properly water-supplied, trapped

nd vented sink, publicly placed, not more than 4 feet above he floor. In no case shall any refrigerator or safe waste-ipe discharge over a sink located in a room used for iving purposes.

117. The branches on vertical lines must be made by Y r TY fittings and carried up to the safe with as much itch as possible.

118. Lead safes must be graded and neatly turned over evel strips at their edges.

119. Where there is an offset on a refrigerator waste-pipe n the cellar, there must be cleanouts to control the horizontal art of the pipe.

120. In all lodgings and tenement houses the safe and efrigerator waste-pipes must extend above the roof.

Water Closets, Sinks and Washtubs.

121. In all buildings, occupied as stores, dwellings, lodging r boarding houses, hotels, offices, lofts, work-shops, factories r storage houses, there must be at least one water-closet n each building. There must be sufficient water-closets so nat there will never be more than 15 persons to each water-loset. In places of public assembly, the number of toilets nd the most available location are to be determined by the nperintendent of buildings.

122. Separate water-closets and toilet rooms must be pro-ided for each sex in buildings used as workshops, lofts, ffice buildings, factories, hotels and all places of public ssembly.

123. In lodging houses, there must be one water-closet n each floor, and where there are more than 15 persons on ny floor there must be an additional water-closet on that oor for every 15 additional persons or fraction thereof.

124. In tenement houses, lodging houses, factories, work-nops, and all public buildings, the entire water-closet apart-ent and side walls to a height of six inches from the floor, xcept at the door, must be made water-proof with asphalt, ment, tile, metal or other water-proof material as approved y the superintendent of buildings.

125. In all buildings, the water-closet and urinal apart-ents must be ventilated to the outer air by windows opening n the same lot as the building is situated on or by a venti-ting skylight placed over each room or apartment wherein ch fixtures are located.

126. In all buildings, the outside partition of any water-oset or urinal apartment must be air-tight and extend

to the ceiling or be independently ceiled over. When necessary to properly light such apartments, the upper part of the partitions must be provided with translucent glass. The interior partitions of such apartments must be dwarfed partitions.

127. The general water-closet accommodation of any building cannot be placed in the cellar, nor can any water-closet be placed outside of a building except to replace an existing water-closet.

128. In alteration work where it is not practicable to ventilate a water-closet or urinal apartment by windows or a skylight directly to the outer air, there may be provided a galvanized wrought iron vent duct extended to the outer air which must be equal in area to at least 144 square inches for one water-closet or urinal, and an additional 72 square inches for each water-closet added therein.

129. Where water-closets will not support a rim-seat, the seat must be supported on galvanized iron legs.

130. Every earthenware water-closet with connection through the floor in all new work, and in all alterations, must be set on an approved floor slab of porcelain, slate or other material impervious to moisture, same to be not less in size than the base of the water-closet set thereon.

131. All water-closets must have earthenware flushing rim bowls. They must be set entirely free and open from all enclosing woodwork.

132. Pan, plunger, offset-washout and washout, or other water-closets having an unventilated space, or whose walls are not thoroughly washed out at each discharge, will not be permitted.

133. Long hopper water-closets will not be permitted, except earthenware hoppers where there is an exposure to frost.

134. Drip trays on water-closets will not be permitted.

135. Water-closets and urinals must never be connected directly with or flushed from the water-supply pipes, except when flushometer valves are used.

136. Each water-closet and urinal must be flushed from a separate cistern, the water from which is used for no other purpose, or may be flushed through flushometer valves.

137. Where "Flushometers" are used, they must be supplied from tank pressure, unless otherwise permitted by the superintendent of buildings; the rising lines shall be at least one and one-half inches in diameter, and the branches shall be at least one and one-quarter inches in diameter for water-closets and three-quarter inch in diameter for urinals.

138. The overflow of cisterns may discharge into the bowls of the closet, but in no case connect with any part of the drainage system.

139. Iron water-closet and urinal cisterns and automatic water-closet and urinal cisterns are prohibited, unless approved by the superintendent of buildings.

140. The copper lining of water-closet and urinal cisterns must not be lighter than ten (10) ounce copper.

141. Water-closet flush pipes must be not less than one and one-fourth inches and urinal flush-pipes one (1) inch in diameter, and if of lead must not weight less than two and one-half pounds and two pounds per linear foot. Flush couplings must be of full size of the pipe.

142. Rubber connections and elbows are not permitted on flush pipes.

143. Latrines, trough water-closets and similar appliances may be used only on written permit from said superintendent of buildings, and must be set and arranged as may be required by the terms of the permit.

144. All urinals must be constructed of materials impervious to moisture, and that will not corrode under the action of urine. The floor and wall of the urinal apartments must be lined with similar non-absorbent and non-corrosive material.

145. The platforms of treads of urinal stalls must never be connected independently to the plumbing system, nor can they be connected to any safe waste-pipe.

146. Iron trough water-closets and trough urinals must be enameled or galvanized.

147. In all houses, sinks must be entirely open, on iron legs or brackets without any enclosing woodwork.

148. Wooden washtubs are prohibited, except when used in hotels, restaurants or bottling establishments for washing dishes or bottles. Cement or artificial stone tubs will not be permitted unless approved by the superintendent of bulidings.

Water Supply for Fixtures.

149. All water-closets and other plumbing fixtures must be provided with a sufficient supply of water for flushing to keep them in a proper anl cleanly condition.

Flush tanks must have a capacity of eight gallons for water-closets and five gallons for urinals.

150. House service pipes must be connected to the street mains by means of taps, and a stop-cock or valve under the

sidewalk at the curb, in compliance with the rules and under the supervision of the department of water supply, gas and electricity.

151. A separate stop or valve must be placed upon the service pipe inside the front wall.

152. The diameters of street service pipe must not be less than three-quarters inch for dwellings and tenements occupied by six families or less; one inch for tenements or apartment houses occupied by more than six families and one and one-half inch for hotels, factories and other miscellaneous buildings, provided that in no case can the diameter of the service pipes be less than the diameter of the tap installed under the supervision of the department of water supply, gas and electricity.

153. That all rising lines have a stop cock or valve at the foot of each line and in all buildings, except dwellings, a separate stop cock or valve must be placed on the branches from riser for each fixture if isolated or each group of fixtures such as bathrooms, kitchens, etc., located to be accessible at all times. The diameters of all rising lines must not be less than three-quarters of an inch, but where lead or brass pipe is used the minimum diameter may be one-half inch.

154. Diameters of branches to any fixture must not be less than one-half inch, except when used to supply water-closets, cisterns or lavatories. When the material used is lead or brass pipe, the minimum diameter may be three-eighths inch. Branches for flush valves for water-closets must not be less than one and one-quarter inch in diameter and for urinals not less than three-quarters of an inch in diameter.

155. Where a hot water supply system is installed, the distance between the hot and cold risers should not be less than six inches. Where it is impossible to place them six inches or more apart, the hot water riser must be covered with an approved insulating material and a method of circulation provided that will insure a prompt delivery of hot water at the faucet when required.

156. All risers and branches must be properly fastened.

157. When the water pressure is not sufficient to supply freely and continuously all fixtures, a house supply tank must be provided of sufficient size to afford an ample supply of water to all fixtures at all times. Such tanks must be supplied from the pressure or by power pumps, as may be necessary; when from the pressure, ball cocks must be provided.

158. House supply tanks must be metal-covered so as to exclude dust and so located as to prevent water contamination by gas and odors from plumbing fixtures.

159. House supply tanks must be of wood or iron, or of wood lined with tinned and planished copper.

160. House tanks must be supported on iron beams.

161. The overflow pipe should discharge upon the roof, where possible, and in such cases should be brought down to within six (6) inches of the roof, or it must be trapped and discharged over an open and water-supplied sink not in the same room, not over three and one-half feet above the floor. In no case shall the overflow be connected with any part of the plumbing system.

162. Emptying pipes for such tanks must be provided, and be discharged in the manner required for overflow pipes, and may be branched into overflow pipes. Emptying pipes for tanks containing more than five hundred (500) gallons must be four (4) inches in diameter and provided with a valve of same size fitted with a wheel or lever handle.

163. Acid wastes must be "B" lead pipe or earthen pipe; if of lead pipe they must be at least two inches in diameter, and if of earthen pipe at least three inches in diameter. They must be extended through roof for ventilation and continued down to the lowest story of building and so arranged as to discharge into a lime box and diluting sink properly trapped and vented and connected inside of house trap. If the lime box and diluting sink is not used the acid waste must be extended to an earthen house sewer or separately and independently connected to a public or private sewer in street and provided with an accessible running trap located just inside of front wall of building. All branches and joints on lead acid wastes must be made by means of burnt lead joints. If earthenware pipe is used, vertical joints must be made with a mixture of asphaltum and cement. Each length of pipe on vertical runs and on horizontal runs when above the cellar floor must be supported at each hub by proper supports. All floor drains and fixture connections must be trapped and run as direct as possible.

Sewage Lifts.

164. When it is necessary to use a sump system and sewage lift to receive the discharge from the waste or soil connection of fixtures, same shall be arranged to be accessible. If discharged with compressed air it shall be connected to the house drain on the sewer side of all leader or area drain traps and fixture connections or may be connected

to house drain on the sewer side of house trap. A separate trap and fresh air inlet must be provided on the inlet side of sump and a 4-inch pipe line continued from drain discharging into sump up to and above roof, for purposes of ventilation. Relief pipes must be provided on sewage receptacles of sumps. Traps of fixtures connected to sump systems must not be vented to vent lines which are used to ventilate traps of fixtures on gravity system. Sump systems should be entirely separate both as to discharge and venting from rest of plumbing system in buildings.

Oil Separators.

165. Oil separators installed in any building where volatile fluids are used, must be arranged to be readily accessible. They must not receive the discharge of any water-closet, rain leader, yard, court or area drain.

166. They must, if discharged by gravity, be connected by a Y branch fitting to the house drain behind the house trap in such a manner that they will not interfere with the house drain and the rest of the plumbing and drainage system. When mechanical force is used to discharge the contents, the connection must be made by a Y branch fitting on the sewer side of house trap.

167. No separate running trap need be provided on the drain entering oil separators, but a separate fresh air inlet and vent line must be provided to keep the system of drainage controlled by the oil separator entirely separate from the rest of plumbing and drainage system.

168. The size of fresh air inlet shall be determined by the size of inlet connection to oil separator, which shall be considered the same as the term house-drain for determining the size of all fresh air inlets, which shall conform to the same requirements as regards size and arrangement of terminals for fresh air inlets as called for in regulations.

169. Vent lines shall conform in all respects to vent lines for plumbing fixtures as regards size and arrangement.

170. Relief pipes must be provided at least 1½ inches in diameter. They may be connected to a vent line when installed as a separate system or must be carried independently above the roof.

Testing the Plumbing System.

171. The entire plumbing and drainage system within the building must be tested by the plumber, in the presence of a plumbing inspector, under a water test. All pipes must remain uncovered in every part until they have successfully passed the test. The plumber must securely close all openings,

as directed by the inspector of plumbing. The use of wooden plugs for this purpose is prohibited.

172. The water test will be applied by closing the lower end of the main house-drain and filling the pipes to the highest opening above the roof with water. The water test shall include at one time the house drain and branches, all vertical and horizontal soil, waste and vent and leader lines and all branches therefrom to a point above the surface of the finished floor and beyond the finished face of walls and partitions. If the drain or any part of the system is to be tested separately, there must be a head of water at least six (6) feet above all parts of the work so tested, and special provision must be made for including all joints and connections in at least one test.

173. After the completion of the plumbing work in any new or altered building and before the building is occupied, a final smoke test must be applied in the presence of a plumbing inspector. Except that for a building not over 6 stories in height, a peppermint test may be applied.

174. The material and labor for the tests must be furnished by the plumber. Where the peppermint test is used, two ounces of oil of peppermint must be provided for each line up to five stories and cellar in height and an additional ounce of oil of peppermint must be provided for each line when lines are more than five stories in height.

Plumbing in Tenement Houes.

175. All sections or parts of sections of the tenement house law relating to plumbing and drainage of tenement houses are to be observed, and are hereby made a part of these rules and regulations.

Gas Piping and fixtures.

176. Hereafter the gas piping and fixtures in all new buildings and all alterations and extensions made to the gas piping or fixtures in old buildings must be done in accordance with the following rules, which are made in accordance with the provisions of section (see General Index in back of book) of the building code.

For additional requirements of public buildings, threatres, and places of assemblage, (see General Index in back of book).

177. Before the construction or alteration of any gas piping in any building or part of any building, a permit must be obtained from the superintendent of buildings. This permit will be issued only to a registered plumber.

Small alterations may be made by notifying the bureau of buildings, using the same blank forms provided for alterations and repairs to plumbing.

178. All gas pipe shall be of the best quality wrought iron or steel and of the kind classed as standard pipe, and shall weigh according to the following scale:

Diameters.	Weights per Linear Foot.
⅜ inch	0.56 pound
½ inch	0.85 pound
¾ inch	1.12 pound
1 inch	1.67 pound
1¼ inch	2.24 pounds
1½ inch	2.68 pounds
2 inch	3.61 pounds
2½ inch	5.75 pounds
3 inch	7.54 pounds
3½ inch	9.00 pounds
4 inch	10.66 pounds

No pipe allowed of less than ⅜ inch in diameter.

179. All fittings (except stop-cocks or valves) shall be of malleable iron.

180. There shall be a heavy brass straightway cock or valve on the service pipe immediately inside the front foundation wall. Iron cocks or valves are not permitted.

181. Where it is not impracticable so to do, all risers shall be left not more than five feet from front wall.

182. No pipe shall be laid so as to support any weight (except fixtures) or be subjected to any strain whatsoever All pipe shall be properly laid and fastened to prevent becoming trapped, and shall be laid, when practicable, above timbers or beams instead of beneath them. Where running lines or branches cross beams, they must do so within thirty-six inches of the end of the beams, and in no case shall the said pipes be let into the beams more than two inches in depth. Any pipe laid in a cold or damp place shall be properly dripped, protected and painted with two coats of red lead and boiled oil or tarred.

183. No gas pipe shall be laid in cement or concrete unless the pipe or channel in which it is placed is well covered with tar.

184. All drops must be set plumb and securely fastened, each one having at least one solid strap. Drops and outlets

less than ¾ of an inch in diameter shall not be left more than one inch below plastering, centre-pieces, or woodwork.

185. All outlets and risers shall be left capped until covered by fixtures.

186. No unions or running threads shall be permitted. Where necessary to cut out to repair leaks or make extensions, pipe shall be again put together with right and left couplings.

187. No gasfitters' cement shall be used, except in putting fixtures together.

188. All gas brackets and fixtures shall be placed so that the burners of same are not less than three feet below any ceiling or woodwork, unless the same is properly protected by a shield, in which case the distance shall not be less than eighteen inches.

No swinging or folding gas brackets shall be placed against any stud partition or woodwork.

No gas brackets on any lath and plaster partition or woodwork shall be less than five inches in length, measured from the burner to the plaster surface or woodwork.

Gas lights placed near window curtains or any other combustible material shall be protected by a proper shield.

189. Gas outlets for burners shall not be placed under tanks, back of doors or within four feet of any meter.

190. All buildings shall be piped according to the following scale:

Diameter.	Length.	Burners.
⅜ inch	26 feet	3
½ inch	36 feet	6
¾ inch	60 feet	20
1 inch	80 feet	35
1¼ inch	110 feet	60
1½ inch	150 feet	100
2 inch	200 feet	200
2½ inch	300 feet	300
3 inch	450 feet	450
3½ inch	500 feet	600
4 inch	600 feet	750

191. Outlets for gas ranges shall have a diameter not less than required for six burners, and all gas ranges and heaters shall have a straightway cock on service pipe.

192. When brass piping is used on the outside of plastering or woodwork, it shall be classed as fixtures.

193. All brass tubing used for arms and stems of fixtures shall be at least No. 18 standard gauge and full size outside so as to cut a full thread.

All threads on brass pipe shall screw in at least 5-16 of an inch. All rope or square tubing shall be brazed or soldered into fittings and distributors, or have a nipple brazed into the tubing.

194. All cast fittings, such as cocks, swing joints, double centres, nozzles, etc., shall be extra heavy brass. The plugs of all cocks must be ground to a smooth and true surface for their entire length, be free from sandholes, have not less than ¾ of an inch bearing (except in cases of special design), have two flat sides on the end for the washer, and have two nuts instead of a tail screw. All stop pins to keys or cocks shall be screwed into place.

195. After all piping is fitted and fastened and all outlets capped up, there must be applied by the plumber, in the presence of an inspector of the Bureau of Buildings, a test with air to a pressure equal to a column of mercury 6 inches in height, and the same to stand for five minutes; only mercury gauge shall be used. No piping shall be covered up, nor shall any fixture, gas heater or range be connected thereto until a card showing the approval of this test has been issued by the Superintendent of Buildings.

196. No meter will be set by any gas company until a certificate is filed with them from the Bureau of Buildings certifying that the gas pipes and fixtures comply with the foregoing rules.

Modifications.

197. When for any reason it may be impracticable to comply strictly with the foregoing rules, the superintendent of buildings shall have power to modify their provisions so that the spirit and substance thereof shall be complied with. Such modifications shall be indorsed upon the permit over the signature of the superintendent of buildings.

NEW YORK PLASTERING LAW

CHAPTER 156

An Act to amend the general city law, in relation to the supervision and regulation of plastering in cities of the first class.

Became a law May 19, 1911, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Chapter twenty-six of the laws of nineteen hundred and nine, entitled "An Act in relation to cities, constituting chapter twenty-one of the consolidated laws," is hereby amended by inserting therein a new article, to be article four-a thereof, to read as follows:

ARTICLE 4-a.

Supervision and regulation of plastering

Section 60. Supervision of plastering by building department.
61. Three coat work required on lath.
62. Key space.
63. First coat or scratch coat.
64. Second coat.
65. Finishing.
66. Cornices or coves.
67. Patent plasters.
68.

§60. **Supervision of plastering by building department.** The building department of every city of the first class shall have jurisdiction over all plastering except where it conflicts with the duties of any other department or conflicts with any law conferring on any other department supervision of any portion of plastering. For such purpose there shall be appointed in each building department in a city of the first class by the head thereof a sufficient number of inspectors to perform such work as is necessary in the enforcement of this article who, in addition to such qualifications as may be required by the civil service law, shall be competent plasterers of at least ten years' practical experience.

§61. **Three coat work required on lath.** All plastering in tenements, apartments, hospitals, schools and other public buildings when on lath shall be known as three coat work, namely, scratch coat, brown coat and finish.

§62. **Key space.** All ceilings, stud partitions a furred walls in tenements, apartments, hospitals, schools a other public buildings where plastered with lime on wo lath shall have not less than three-eighths space betwe lath. All grounds and jambs shall mean* not less th seven-eighths from the stud.

§63. **First coat or scratch coat.** First or scrat coat shall be of first quality to be scratched thoroughly make a key to retain second coat; and shall be thorough dry or set before applying second coat.

§64. **Second coat.** Second coat or brown mortar sh be of first quality. All browning must be straight, true wi no unevenness or irregularity of surface.

§65. **Finishing.** When white mortar, or any oth material of a like character is used for finish coat, it sh be laid on regular and troweled to a smooth surface showi neither deficiencies or brush marks.

§66. **Cornices or coves.** All cornices or coves sh be run straight, true and smooth.

§67. **Patent plaster.** When patent plasters, such ivory, acme, windsor, etcetera, are used, lathing, if of wo lath, shall not be less than one-quarter inch key spa First coat shall be thoroughly scratched to make key to r tain second coat, and shall be set before second coat applied.

§68. Nothing in this article contained shall effect t tenement house act and the enforcement of the provisio thereof by the city of New York.

Section 2. This act shall take effect January first, ninete hundred and twleve.

(*So in original. Should read "be.")

RULES FOR INSPECTORS OF PLASTERING

1. WOOD LATH.

a. All wood lathing shall be done with the best quality awn white pine or spruce lath set not less than ⅜ inch part for lime or lime and cement mortars and not less than ¼ inch apart for hard wall plaster mortars.

b. The lath shall not be less than 1¼ inches x ¼ inch, ior wider than 1½ inches.

c. The wood shall be well seasoned and free from bark, apwood or dead knots.

d. All wall and ceiling lath shall be nailed with at least our nails to each lath where studding or furring is 16 nches on centers, and with five nails to each lath where urring is spaced 12 inches on centers.

e. Lath in walls shall be laid horizontally, and in ceilings hall run in one direction only. The joints shall be broken t least every tenth lath.

f. Three-coat work, scratch, brown and finish coats, hall be required on wood lath.

2. METAL LATH.

a. All expanded metal and sheet metal lath shall be not ighter than No. 27 U. S. gauge, galvanized, painted with n asphaltum compound, or japanned.

b. All wire lath shall be not lighter than No. 20 U. S. auge, galvanized, painted with an asphaltum compound, or apanned.

c. All metal lath shall be lapped at least 1 inch at the nds, and at the sides of the sheet the lath shall be lapped in uch a manner to insure a good job.

d. All expanded sheet metal and wire lath shall be of type suitable to form a proper key and firmly retain the laster.

e. In furring over structural sheathing or solid wood vork, metal lath shall be kept at least ⅜ inch away from he wood surface by furring strips.

f. All metal lath without stiffeners shall be tied or laced t least every six inches vertically to the furring or studs vith No. 18 U. S. gauge annealed, galvanized wire, and all ath with stiffeners at least at 8-inch intervals; at lap joints orizontally, between the studs, a similar tie shall be pro- ided. The ends of all tie wires shall be twisted tight with double turn and bent back flush with the face of the lath.

g. Expanded or sheet metal lath of No. 24 gauge or less astened to wood studs, shall be stapled at least at 6-inch

intervals and the laps between the studs securely lace All stiffened wire lath on wood studs, shall be stapled ov the rod or "V" stiffener, and the laps between studs proper tied.

3. FURRING AND STUDDING FOR METAL LAT AND PLASTER OR PLASTER BOARD PARTITION AND CEILINGS.

a. All furring or studding for metal lath and plast partitions shall have a minimum spacing of 12 inches and maximum spacing of 16 inches corresponding to the la as specified in Table 1.

b. All furring in ceiling shall have a minimum spaci of 12 inches and a maximum spacing of 16 inches correspon ing to the lath as specified in Table 1.

c. *Table* 1.

Types of Metal Lath U. S. Standard Gauge.	Maximum Spacing Studding or Furring	
	Hung and Clipped Ceilings	Solid and Hollow Partitions
No. 22 gauge expanded metal lath with ribs at least 3-32 in. wide, weighing at least 4 1-3 pounds per square yard	16-inch	16-inch
No. 24 gauge expanded metal lath with ribs at least 2-32 in. wide, weighing at least 3 1-3 pounds per square yard	14-inch	16-inch
No. 24 gauge expanded metal lath of less weight	12-inch	16-inch
No. 27 gauge expanded metal lath or sheet metal lath	.....	12-inch
No. 18 gauge wire lath 2 by 2 mesh.	12-inch	14-inch
No. 18 gauge wire lath 2½ by 2½ mesh	12-inch	16-inch
No. 20 gauge wire lath 2½ by 2½ mesh	12-inch	14-inch
No. 20 gauge V-stiffened wire lath or with rods or stiffeners 7½ or 8 inch on centers.....	16-inch	16-inch

d. For both solid and hollow metal lath and plaste partitions, the studs or furring bars shall be 1-inch x ⅜-incl

x ⅛-inch, channels or angles, tees or flats of equivalent sectional area and strength spaced 12-inch to 16-inch centers according to the lath used. Where necessary, the steel furring strips shall be properly braced and bolted laterally; and shall be securely fastened to floor and ceiling construction by bent knees, slotted clips or runner plates of approved types.

e. All furring for suspended or clipped ceilings shall be of sufficient weight and strength to support the load imposed and shall consist of at least ¾-inch channels or their equivalent for spans up to five feet and not lighter than 1-inch x ⅜-inch x ⅛-inch channels or other approved sections of equivalent strength for spans up to seven feet. The spacing of furring bars shall correspond with the type of lath used. For spans over seven feet, the sectional area and the strength of furring bars shall be increased proportionately or intermediate supports shall be provided, of hangers or clips securely fastened to the bottom flanges of steel beams or anchored to the arch construction above. All supporting clips used for the purpose of receiving and supporting the furring bars for ceilings shall be made from stock weighing not less than 0.4 pounds per lineal foot and of sufficient strength to sustain the dead load imposed.

f. Cross-furred and suspended ceilings shall be constructed of continuous running bars equivalent in strength and sectional area to a 1½-inch x 1½-inch x 3-16-inch angle suspended by hangers from the lower flanges of the structural steel framing. The cross-furring shall be securely bolted or clipped to or passed through the running bars. If "hairpin" clips are used they shall be of not less than No. 9 annealed and galvanized wire and shall pass up on both sides of the furring bar and be securely hooked over the running bar. The hangers shall be of not less than 1-inch x 3-16-inch flats, clamped to both sides of the steel beams.

g. Clipped ceilings shall be not more than 4 inches below the steel beams.

h. Bolts used for atttaching running bars to hangers shall be not less than ⅜-inch in diameter and for attaching furring irons to running bars not less than ¼-inch bolts shall be used.

i. In the case of heavy, ornamental ceiling work, special provision shall be made to sustain the load.

j. Proper ventilation should be provided where hung ceilings are used to take care of the condensation of moisture.

k. Three-coat work, scratch, brown and finish coats, shall be required on metal lath.

4. PLASTER BOARD.

a. All plaster boards consisting of plaster of Paris reinforced with strong fibre shall be not less than ⅜-inch thick, except in tenement houses, where a minimum thickness of ½-inch is required, and shall be of a type approved by the Bureau of Buildings.

b. The boards shall be spaced ¼-inch apart on all sides and shall be nailed directly to all wood studding or furring with 1¼-inch wire nails at least No. 11½ gauge, with flat ⅜-inch heads. The nails shall be spaced not more than 6 inches apart for walls, and not more than 4 inches apart for ceilings.

c. The joints shall be broken every other board horizontally on walls, and at right angles to the furring on ceilings.

d. All joints and spaces between plaster boards shall be filled with hard wall plaster mortar and allowed to thoroughly set before browning.

e. When three-coat work is specified, the joints or spaces between the boards may be filled at the time of putting on the scratch coat, using the same material.

f. Plaster boards shall not be wet before plastering.

g. Two-coat work of hard plaster mortars shall be required on plaster boards of the above description.

5. LIME.

a. Lime used for plastering shall be of the best quality evenly and thoroughly burned limestone. It shall be free from clinkers with not more than 15 per cent. of other impurities. It shall slake readily in water, forming a fine, smooth paste without residue in excess of 15 per cent.

6. SAND.

a. The sand shall be of angular grains, sharp, properly screened and free from loam and other deleterious substances.

7. HAIR BINDER.

a. The binder shall be water-soaked, well beaten, clean, long winter hair or approved vegetable fibre cut in 2-inch to 3-inch lengths.

8. SCRATCH COAT.

a. The scratch coat shall be at least 3-16-inch to ¼-inch thick, and shall be well keyed into the lath. It shall be scored or scratched with diagonal lines nearly through its thickness.

b. The mortar shall be mixed in the proportions of one barrel of lump lime, 2½ barrels of clean, sharp sand, and the binder in the proportion of two pounds of hair or three

pounds of fibre to 100 pounds of lump lime. Or the mix may be proportioned as follows: to 1,000 pounds of unslaked lime of standard quality, add one cubic yard of screened, sharp sand and 10 pounds of hair.

9. BROWN COAT.

a. The brown coat shall be at least ¼-inch thick and shall not be applied until the scratch coat is dry. It shall be brought to a true plane by screeding horizontally or some other acceptable method and floating to an even surface. The brown coat must be straight and true.

b. The mortar shall be composed of one barrel of lump lime to five barrels of sand with binder in the proportion of one pound of hair or fibre to 100 pounds of lump lime. Or the mix may be proportioned as follows: to 500 pounds of unslaked lime add one cubic yard of screened, sharp sand and 2½ pounds of hair.

10. FINISH COAT.

a. The hard finish coat shall be the best quality of prepared finish or well slaked lime putty gauged with plaster of Paris, or plaster of Paris with marble dust of white sand in combination.

b. The mix shall be proportioned as follows: to one part of plaster add two parts of white mortar.

c. If sand finish is used it shall be applied before the brown coat is quite dry, or if dry, the brown coat should be wet down and the sand coat trowelled or floated to the desired finish.

11. MIXING.

a. Scratch coat. The lime shall be thoroughly slaked, the putty being allowed to cool before incorporating the hair to avoid burning. The proper amount of sand shall then be added and thoroughly mixed and the mortar banked for at least three days.

b. Brown coat. The mortar shall be prepared as for scratch coat, and banked for at least three days before using.

c. Finish coat or white mortar. The lime shall be thoroughly slaked in a box, mixing in a small proportion of white sand or marble dust. It shall be then run through a No. 10 mesh wire seive into a storage box and allowed to stand for at least 48 hours before gauging with plaster and applying the finish coat.

d. Machine-mixed mortar shall be made from lime putty.

e. Hydrated limes of approved brands may be used in place of lump lime.

f. All frozen mortar shall be discarded.

12. PLASTERING NOTES.

a. All plastering on lath in tenements, apartments, hospitals, schools and other public buildings shall be known as three-coat work, namely scratch coat, brown coat and finish coat.

b. On brick and fireproofing, all plastering shall be done in the brown and finishing coats. Where waterproofing is applied to the interior surface of the wall, the same shall be furred down before plastering, or the mortar gauged with plaster of Paris.

c. When plastering is applied to concrete surfaces, the surface shall be clean, free from oil and properly prepared for binding and keying the plaster; or the work shall be furred down.

d. Walls of brick or stone must be thoroughly cleaned and the joints left rough or open before the plastering is applied.

e. The brown coat shall be well floated to a true and even surface flush with the grounds.

f. No "laid off" work shall be permitted but each coat shall be thoroughly dry or set before the next coat is applied.

g. All surfaces shall be straight edged in every direction, ceilings level and all jambs and angles straight and true.

h. When plastering is done, the building shall be kept in working condition and properly enclosed against the weather.

13. GROUNDS.

a. Base grounds. In all rooms and halls there shall be a base ground or what is known as a ribbon ground. Soldier grounds can be placed from floor to ribbon ground and if such are used, they must not extend out past ribbon grounds or partition plates on floor. Where picture moulding or Dutch shelf grounds, etc., are used, they should receive the same treatment as the base grounds.

b. Window and door grounds. All windows shall be grounded top and bottom unless equivalent provision is made through the use of window frames.

All door, portiere or grill openings shall be grounded top and sides with bucks formed by turning joist on 4-inch way, or with a plain ground which shall not extend past base or moulding grounds.

c. On brickwork, concrete and terra cotta, ½-inch grounds shall be used. Where wood lath is used, the ground and jambs shall project not less than ⅞-inch from the stud, and where metal lath is used, not less than ⅝-inch.

14. BATH ROOMS. TILE ON METAL LATH.

a. Where bath rooms are furred with metal lath to receive tile, the motar shall be composed of one part of Portland cement, three parts of clean, sharp sand and ten per cent. of lime putty or hydrated lime with sufficient hair.

b. The scratch coat shall be well keyed into the lath and scratched with diagonal lines to receive the tile.

15. CORNICES, GROINED, DOME AND BARREL CEILINGS.

a. All cornices, coves and bull noses shall be run with moulds and properly furred and metal lathed.

b. Ornamental ceilings shall be constructed in a manner similar to suspended ceilings with the necessary modifications of brackets, frames and supports to conform to the required outline. All furring should be bolted and clipped together and securely anchored. No furring shall be tied up.

16. PATENT OR HARD WALL PLASTERS.

a. Hard wall plasters shall be of approved brands and shall be received at the building operations in the manufacturers' original packages and shall be mixed and applied in accordance with his specifications.

17. KEENE CEMENTS.

a. Keene cements shall be of approved brands, and shall be applied according to the manufacturers' specifications.

b. The base coat may be prepared with Portland cement in the proportions of one part Portland cement, to three parts clean, sharp sand.

c. The finish shall be well trowelled to a polished surface.

Article 11
GARAGES

§152. **Construction.** 1. *General regulations.* Except as hereinafter provided in this section, all garages hereafter erected shall be of strictly fireproof construction as to all rooms and compartments, where motor vehicles with gasoline in their fuel tanks, are stored; and all garages heretofore erected shall have all walls, ceilings and floors covered with fire retarding material in all rooms and compartments where motor vehicles, with gasoline in their fuel tanks, are stored.

2. *Non-fireproof roofs, doors and windows—where permitted.* Garages not exceeding one story in height may have non-fireproof roofs and garages not exceeding two stories in height may likewise have non-fireproof roofs, provided the same are covered on the inside with approved fire retarding material in all cases where motor vehicles, with volatile inflammable oil in their fuel tanks, are stored or kept on the upper floor. Window openings and outside doors in such garages removed at least thirty feet from the nearest exposure, may be non-fireproof.

3. *Non-fireproof construction, where permitted.* Nothing in this section shall prohibit the erection or the granting of a permit for a garage of non-fireproof construction while the following conditions exist:

(a) No volatile inflammable oil is stored except in the fuel tanks of the motor vehicles;

(b) Fuel tanks of the motor vehicles stored, are not opened, filled or drawn from in the garage;

(c) Not more than four motor vehicles are stored;

(d) All motor vehicles stored are the property of the owner and not for sale, rent or hire;

(e) The garage is situated at least fifteen feet from the nearest building, unless the nearest wall of such building or the wall of the garage nearest such building is of unpierced fireproof construction; the provisions of this sub-division, however, to apply only to garages hereafter to be erected.

4. *Converted buildings.* The requirements herein stated for garages hereafter erected shall apply to buildings erected after May 1, 1915, for any purpose, and thereafter converted for use for garage purposes.

NOTE.—Opinion of Corporation Counsel, rendered to the Board of Examiners on February 29, 1916, states that "Section 152 of Article 11, Chapter 10, of the Code of Ordinances should be construed as constituting an exception to the general provisions of Sections 72 and 73 of Article 4, Chapter 5, of the said Code, and that the said Sections 72 and 73 should now be read as limited by the provisions of said Section 152."

CITY OF NEW YORK

CODE OF ORDINANCES

Excerpts from Chapter 23—Streets

Article 13.

OBSTRUCTIONS AND INCUMBRANCES

§140. **Special uses of streets.** No person shall incumber or obstruct any street or sidewalk which has been opened, regulated or graded, according to law, with any article or thing whatsoever, without first having obtained written permission from the president of the borough in which such street or sidewalk is situated. (C. O., §219.)

§141. **Building construction, sidewalk bridges.** Persons who desire to erect large buildings may erect and maintain a bridge, not to exceed 7 feet in height above the sidewalk and 6 feet in width, extending the whole length of the proposed building; the steps leading to the same to rest upon the sidewalk of the adjoining premises. (C. O., §211.)

§142. **Building material.** 1. *Permit.* The president of each borough shall have the power to grant permits to builders to occupy not to exceed one-third of the carriageway of any street with building material; provided in his opinion the interests and convenience of the public will not suffer thereby. (§1, Brooklyn ords.)

2. *Conditions.* Such permits shall provide expressly that they are given upon condition that the sidewalks and gutters shall at all times be kept clear and unobstructed, and that all dirt and rubbish shall be promptly removed from time to time by the party obtaining such permit, and that all such permits may be revoked by the borough president, at pleasure. (Id.)

3. *Deposits.* Except as otherwise specifically provided in this article, no such permit shall be granted to any builder unless he shall, at the time said permit is granted, have on deposit with the borough president the sum of $50, as a guarantee that he will promptly comply with the conditions of all permits which may be so granted, including the prompt removal of all dirt and rubbish placed upon the street from time to time, and also for the prompt removal, after the

expiration or revocation of any such permit, of any building material placed upon any street thereunder. Each borough president is hereby authorized and empowered to use so much of the moneys so deposited as may be required to effect the prompt removal of such dirt or rubbish as may, from time to time, be left upon the streets by the party making the deposit, and also for the purpose of removing any building material which may remain thereon, after the expiration or revocation of any permit, under which it was so placed. In case any such deposit shall become impaired or exhausted, by its use by a borough president in the removal of dirt, rubbish, or building material, the amount shall be made up immediately, to the sum of $50, on notice from the borough president, and, in default thereof, all permits theretofore issued to the builder failing to comply with such notice shall be revoked, and no permit shall be thereafter granted to him until such deposit be made good. Any builder may, at any time, withdraw his deposit; provided he shall hold no unexpired permits and have fully complied with all the conditions of all permits theretofore issued, otherwise said builder shall be only entitled to withdraw and receive as much of the deposit as may remain unexpended after the provisions of this section, relative to the use of said money for the removal of dirt, rubbish or building material, as the case may be, have been carried into effect. (Id.)

4. *Restrictions.* a. In placing building materials in a street, the material shall be so placed as not to occupy more than one-third of the width of the carriageway of the street. In a street upon which there is a railroad, materials shall not be placed nearer to the track than 2 feet. (C. O., §211.)

b. In no case shall building material be placed upon, nor shall mortar, cement or other material be mixed upon the pavement of a street paved with asphalt, asphalt block or wood, except under a permit issued by the borough president having jurisdiction, which shall contain a provision that such pavement shall be protected by first laying planks thereon. Borough presidents, or other officers issuing permits to builders to use the streets, shall insert in each such permit a clause requiring compliance with this provision. (C. O., §270.)

5. *Unauthorized obstructions.* Whenever any wood, timber, stone, iron or other building material has been or shall be put or placed in or upon any street, without a permit, the borough president having jurisdiction shall forthwith cause the same to be taken up and removed. (C. O., §146.)

§150. **Storm-doors.** Storm-doors not exceeding 10 feet in height, nor more than 2 feet wider than the doorway or entrance of any building, may be temporarily erected within the stoop-lines; providing a permit therefor shall have been obtained from the borough president having jurisdiction; but in no case shall any storm-door extend more than 6 feet outside the house-line. No structure under the name of "storm-door" shall be lawful which shall practically be an extension of the building front or house front within the stoop-line, or an enlargement of the ground floor of any premises. (C. O., §263.)

CODE OF ORDINANCES

Chapter 23

Article 14

PROJECTIONS AND ENCROACHMENTS

§160. **Projections prohibited.** No areas, steps or other projections beyond the building line except those indicated in paragraphs c, d, e, f and h of subdivision 4, §170, chapter 5 of this Code of Ordinances, shall be built, erected or made upon the following streets, namely:

a. Grand Boulevard and Concourse in the Borough of The Bronx, between East 161st Street and Mosholu Parkway;

b. On Coney Island Avenue, from the Plaza at Parkside Avenue to Neptune Avenue, in the Borough of Brooklyn;

c. On Newkirk Avenue, between Flatbush Avenue and Coney Island Avenue, in the Borough of Brooklyn.

§164. **Cellar doors and steps.** Every entrance or flight of steps, now existing and projecting beyond the line of the street and descending into any cellar or basement story of any house or other building, where such entrance or flight of steps shall not be covered, shall be enclosed with a railing on each side, permanently put up, from 3 to 3½ feet high, with a gate to open inwardly, or with 2 iron chains across the front of the entrance-way, 1 near the top and 1 in the centre of the railing, to be closed during the night, unless there be a burning light over the steps, to prevent accidents.

CHAPTER 23

Article 16

SIGNS AND SHOW BILLS

§210. **General provisions.** Except as otherwise specified in the succeeding sections of this article, signs, showbills and showboards may be placed on the fronts of buildings, with the consent of the owner thereof. They shall be securely fastened, and shall not project more than 1 foot from the house wall, except that signs may be hung or attached at right angles to any building and extend not to exceed 3 feet therefrom in the space between the second floor (the ground floor being considered the first floor) and a point 8 feet in the clear above the level of the sidewalk in front of such building. Signs may be attached to the sides of stoops, but not to extend above the railing or beyond the stoop-line of any stoop. No sign, showbill or showboard shall be placed, hung or maintained except as prescribed in this article.

§211. **Ground signs and roof signs.** 1. *Permits required.* No ground sign or roof sign shall be erected until a permit therefor shall have been issued by the superintendent of buildings having jurisdiction. Each superintendent of buildings may prescribe suitable regulations, consistent with the provisions of this article, concerning the forms and contents of applications for the various forms of permits.

2. *Plans and specifications.* No such permit shall be issued unless plans and specifications, showing the dimensions, material and details of construction of the proposed sign, accompanied by the written consent of the owner or lessee of the property upon which it is to be erected, shall have been filed with the superintendent of buildings having jurisdiction, nor until all of the provisions of the Building Code, relating to such structures, shall have been complied with.

3. *Electric wiring and appliances.* In the case of a sign illuminated by electricity, a certificate must also be procured from the department of water supply, gas and electricity, certifying that the electric wiring and electric appliances of the proposed sign are in conformity with the rules and regulations of that department.

4. *Fees.* Before any permit shall be issued under this section, a fee therefor shall be paid to the appropriate bureau of buildings as follows: For ground signs, $2; for roof signs having a tight, closed or solid surface, $5; for roof signs not having a tight, closed or solid surface, $10; provided that each face of any such sign structure, when fronting on different streets shall be considered to be a separate sign.

5. *Existing structures.* Permits shall be issued for existing signs not conforming to the requirements of this article, provided such signs were erected in conformity with the legal requirements in effect when they were erected, but no fees shall be charged for permits or registration for existing signs.

6. *Registration and identification.* Every ground-sign and roof-sign existing or hereafter erected, shall be registered with the bureau of buildings of the borough in which such structure is situated, by the person maintaining the same, and shall have displayed upon the front thereof the name and address of such person, and the serial number of the permit issued for such structure. The bureau of buildings may issue permits in several series so as to distinguish between existing signs and new sign structures erected in conformity with this article, or between various classes of signs.

§212. Ground signs; special provisions. 1. *Construction.* No ground, fence, billboard or sign within the fire limits of the city shall be at any point over 12 feet above the ground; provided that when the face of any sign, excepting the ornamental moulding thereof, shall be constructed entirely of metal or of wood covered on all sides with sheet metal, the sign shall not be at any point over 24 feet above the ground.

2. *Maintenance.* Any person, occupying any vacant lot or premises with a billboard, sign or other advertising structure or device, shall be subject to the same duties and responsibilities as the owner of the lot or premises, with respect to keeping the same clean, sanitary, inoffensive and free and clear of all noxious substances in the vicinity of such billboard, sign, structure or device; and with respect to the removal of snow from the sidewalk and curb in front thereof.

§213. **Roof-signs; special provisions.** 1. *Construction.* All roof sign structures shall be so constructed as to leave a clear space of at least 7 feet between the roof level and the lowest part of the structure, and at least 5 feet between the vertical supports thereof; such structures shall be set back at least 6 feet from the face of the front and rear walls and shall not interfere with any openings in the roof or with any fire escape. Such structures, excepting the ornamental surface moulding thereof, shall be constructed entirely of metal, including the uprights, supports and braces for same, and shall be required to bear a wind pressure of not less than 30 pounds to the square foot of area subject to such pressure.

2. *Restrictions.* a. No roof sign structure having a tight, closed or solid surface shall be at any point over 31 feet above the roof level.

b. Roof sign structures not having a tight, closed or solid surface may be erected upon fireproof buildings to a height not exceeding 75 feet above the roof level, and upon non-fireproof buildings to a height not exceeding 50 feet above the roof level, but the portions of such structures covered and exposed to wind pressure shall not exceed 35 per cent of the total area.

§214. **Signs on walls.** 1. *Construction.* No sign shall be erected upon the front, rear or side wall of any building so as to project above either the roof cornice or parapet wall, or above the roof level, where there is no cornice or parapet wall; except that a sign erected at a right angle to the building wall, the horizontal width of which sign parallel to such wall does not exceed 2 feet, may be erected to a height not exceeding 2 feet above the roof cornice or parapet wall, nor above the roof level where there is no cornice or parapet wall. A sign attached to a corner, and parallel to the vertical line of such corner, shall be deemed erected at a right angle to the building wall.

2. *Restrictions.* No such sign shall be so erected as to cover the doors or windows of any building, or otherwise prevent free ingress or egress to or from any window, door or fire escape on any building.

§215. **Electric signs.** 1. *Application of preceding sections.* Except as hereinafter specifically prescribed, all provisions of §§211 to 214, inclusive, of this article, shall apply to the continuance, construction, alteration, reconstruction and maintenance of electric signs, as hereinafter defined.

2. *Issue of permits.* All permits for electric signs shall be issued by the city clerk, upon applications therefor approved by the commissioner of water supply, gas and electricity and the superintendent of buildings having jurisdiction.

3. *Definition.* Any letter, word, model, sign, device or representation, used in the nature of an advertisement, announcement or direction, illuminated by electricity, erected on any building and extending beyond the building line, shall be deemed to be an electric sign.

4. *Fee for permit.* The applicant for a permit to construct or maintain an electric sign shall pay to the city clerk an annual fee of 10 cents for each square foot of sign space or part of square foot of such sign space displayed on such electric sign, to be computed and collected by the city clerk. The square feet of sign space on one side of an electric sign, however, shall be deemed to be the entire number of square feet of sign space, for the purpose of computing the license fee herein referred to and required to be paid.

5. *Consent of owner of adjoining residence.* No permit shall be issued for the erection of an electric sign on a building which adjoins another occupied exclusively as a private residence, until the applicant for the permit shall have filed the written consent of the owner of such residence to the erection of the proposed sign.

6. *Restrictions.* a. No electric sign shall extend more than 8 feet from the building line, nor shall any such sign be less than 10 feet in the clear above the level of the sidewalk beneath the same.

b. All electric signs shall be constructed entirely of metal or other incombustible material, except the insulation thereof, including the uprights, supports and braces for the same, and shall be properly and firmly attached to the building, and shall be so constructed as not to be or become dangerous.

§216. **Unsafe signs.** Should any fence, sign, billboard or roof sign or sign structure be or become insecure, or in danger of falling, or otherwise unsafe, in the opinion of the superintendent of buildings, the owner thereof, or the person maintaining the same, shall, upon notice from the superintendent, forthwith in case of immediate danger, and, in any case within 10 days, secure the same, under the supervision of and in the manner to be approved by the superintendent, in conformity with the provisions of this article.

§217. Unlawful signs. In case any sign or structure shall be attached at other than a right angle to the wall of the building, extending outside the building line and projecting above the roof cornice or parapet wall or above the roof level, where there is no cornice or parapet wall, or shall be so erected as to prevent free ingress and egress to and from any door, window or fire escape of any building, the fire commissioner shall notify, by registered mail, the owner or lessee thereof to alter such sign or structure, so as to comply with this article, or to remove the same. If such order is not complied with within 60 days, the fire commissioner shall remove such sign or sign structure at the expense of the owner or lessee thereof.

§218. Alteration of existing signs. No existing fence sign, billboard or roof sign or sign structure shall be enlarged, rebuilt, structurally altered or relocated, except in accordance with the provisions of this article; provided that this requirement shall not apply to the relettering or rewiring of electric signs.

§219. Exemptions. No part of the foregoing sections of this article shall apply to walls constructed wholly of principally of stone, marble, brick, terra cotta, concrete or other like material composing a masonry or monolithic wall; nor to back yard fences on the ground in the interior of a court; nor to picket fences and ornamental metal fences.

§220. Retroactive effect. Except as expressly provided in §§216 and 217 hereof, this article shall have no retroactive effect.

§221. Inspections. Every sign or sign-structure, for which a permit shall have been issued under any provision of this article, shall be inspected at least once in each calendar year, by or under the direction of the superintendent of buildings having jurisdiction.

§222. Public signs, protection of. No person shall injure, deface, obliterate, mar, remove, take down, loosen, destroy or in any other manner interfere with or disturb any signboard containing the name of any street or public place whether it be upon public or private property.

§223. Violations. 1. *Punishment.* No person shall violate any provision of this article under a penalty of $100 for each offense. No sign or sign structure shall be maintained, contrary to the provisions of this article, under a penalty of $10 for each day or part of a day the same shall be so maintained.

2. *Abatement.* Except as otherwise provided in this article, any fence, sign, billboard or roof-sign structure erected or maintained in violation of this article shall be subject, upon notice, to abatement by the superintendent of buildings having jurisdiction.

MOVING PICTURES

LAWS OF NEW YORK, CHAPTER 308

AN ACT to amend the general business law, in relation to the operation of the cinematograph or any other apparatus for projecting moving pictures. Became a law April 17, 1913.

Article 12-A

Public Entertainments or Exhibitions by Cinematograph or any Other Apparatus for Projecting Moving Pictures

§209. **Fireproof booth for cinematograph or any other apparatus for projecting moving pictures.** No cinematograph or any other apparatus for projecting moving pictures, save as excepted in §§211 and 213 of this article, which appparatus uses combustible films of more than ten inches in length, shall be set up for use or used in any building, place of public assemblage or entertainment, unless such apparatus for the projecting of moving pictures shall be inclosed therein in a booth or inclosure constructed of concrete, brick, hollow tile or other approved fireproof material or any approved fireproof framework covered or lined with asbestos board, or with some other approved fire resisting material, and unless such booth shall have been constructed as provided in §210 of this article and the certificate provided in §212 of this article shall have been issued to the owner or lessee of the premises wherein such booth is situated.

§210. **Construction of booth; approval of plans and specifications.** The booths provided for in §209 of this

article shall be constructed according to plans and spec fications which shall have been first approved, in a city, b the mayor or chief executive officer of the city departmer having supervision of the erection of buildings in such city in a village, by the president of such village; in a tow outside the boundaries of a city or village, by the supervisc of such town. Provided, however, that no plans and spec fications for the construction of such booths shall be ap proved by any public official, unless the following requir ments are substantially provided for in such plans an specifications.

1. *Dimensions.* Such booths shall be at least six feet i height. If one machine is to be operated in such booth th floor space shall be not less than forty-eight square feet. I more than one machine is to be operated therein, an add tional twenty-four square feet shall be provided for eac additional machine.

2. *General Specifications.* In case such booth is not cor structed of concrete, brick, hollow tile or other appprove fireproof material than asbestos, such booth shall be cor structed with an angle framework of approved fireproof ma terial, the angles to be not less than one and one-quarte inches by three-sixteenths of an inch thick, the adjacer members being joined firmly with angle plates of meta The angle members of the framework shall be spaced no more than four feet apart on the sides and not more tha three feet apart on the front and back and top of such boot The sheets of asbestos board or other approved fire-resis ing material shall be at least one-quarter of an inch in thick ness and shall be securely attached to the framework b means of metal bolts and rivets. The fire-resisting materi shall completely cover the sides, tops and all joints of suc booth. The floor space occupied by the booth shall be co ered with fire-resisting material not less than three-eight of an inch in thickness. The booth shall be insulated s that it will not conduct electricity to any other portion c the building. There shall be provided for the booth a doc not less than two feet wide and five feet ten inches higi consisting of an angle frame of approved fireproof materi covered with sheets of approved fireproof material one quarter of an inch thick, and attached to the framework o the booth by hinges, in such a manner that the door sha be kept closed at all times, when not used for ingress o egress.

The operating windows, one for each machine to be op erated therein and one for the operator thereof, shall be n larger than reasonably necessary, to secure the desired serv ice, and shutters of approved fireproof material shall b

provided for each window. When the windows are open, the shutters shall be so suspended and arranged that they will automatically close the window openings, upon the operating of some suitable fusible or mechanical releasing device.

Where a booth is so built that it may be constructed to open directly on the outside of the building through a window, such window shall be permitted for the comfort of the operator, but such booth shall not be exempted from the requirement of the installation of a vent flue as hereinafter prescribed. Said booth shall contain an approved fireproof box for the storage of films not on the projecting machine. Films shall not be stored in any other place on the premises; they shall be rewound and repaired either in the booth or in some other fireproof inclosure. The booth in which the picture machine is operated shall be provided with an opening or vent flue in its roof or upper part of its side wall leading to the outdoor air. The vent-flue shall have a minimum cross-sectional area of fifty square inches and shall be fireproof. When the booth is in use there shall be a constant current of air passing outward through said opening or vent flue at the rate of not less than thirty cubic feet per minute.

§211. **This article not retroactive under certain conditions.** §§209 and 210 of this article shall not be retroactive for any booth approved by the appropriate public authority or official prior to this article taking effect, provided such booth have or be so reconstructed of the same material as to have dimensions as specified in §210 of this article; provided such booth conform to the specification of §210 as regards vent flue, box for storage of films, specifications for windows and doors, and provided such booth be of rigid fireproof material, and be insulated so as not to conduct electricity to any other part of the building and be so separated from any adjacent combustible material as not to communicate fire through intense heat in case of combustion within the booth.

§212. **Inspection; certificate for permanent booths.** After the construction of such booth shall have been completed, the public officer charged herein with the duty of passing upon the plans and specifications therefor shall within three days after receipt of notice in writing that such booth has been completed cause such booth to be inspected. If the provisions of §§209 and 210 of this article have been complied with, such public officer shall issue to the owner or lessee of the premises wherein such booth is situated a

certificate stating that the provisions of §§209 and 210 of thi article have been complied with.

§213. Portable booth for temporary exhibitions. Wher motion pictures are exhibited daily for not more than on month, or not oftener than three times a week, in educa tional or religious institutions or bona fide social, scientifi political or athletic clubs, a portable booth may be subst tuted for the booth required in §§209 and 210 of the articl Such booth shall have a height of not less than six feet an an area of not less than twenty square feet and shall b constructed of asbestos board, sheet steel of no less gaug than twenty-four; or some other approved fireproof ma terial. Such portable booth shall conform to the specifica tions of §210 of this article with reference to windows an door, but not with reference to vent flues. The floor of suc booth shall be elevated above the permanent support on whic it is placed by a space of at least one-half inch, sufficien to allow the passage of air between the floor of the boot and the platform on which the booth rests, and the boot shall be insulated so that it will not conduct electricity t any other portion of the building.

§214. Exemption and requirements for miniatur cinematograph machines. The above sections, 209, 210, 21 212 and 213, referring to permanent and portable booths, sha not apply to any miniature motion picture machine in whic the maximum electric current used for light shall be thre hundred and fifty watts. Such miniature machine shall b operated in an approved box of fireproof material constructe with a fusible link or other approved releasing device t close instantaneously and completely in case of combustio within the box. The light in said miniature machine shall b completely inclosed in a metal lantern box covered with a unremovable roof.

§215. Inspection; certificate for portable booths an miniature cinematograph machines. Before moving pic tures shall be exhibited with a portable booth, under §213 o this article, and before a miniature machine without a boot shall be used as prescribed in §214 of this article, there sha be obtained from the appropriate authority, as defined in §21 of this article, a certificate of approval.

§216. Penalty for violating this article. The violatio of any of the provisions of this article shall constitute a mis demeanor. This act shall not apply to cities which have loca laws or ordinances now in force which provide for fireproo booths of any kind for moving picture machines or apparatus

CHARTER

GREATER NEW YORK

Chapter 9

Title 2

Bureau of Buildings

[Note—*Portions of the text of no special interest to the general public have been omitted.*]

§405. **Appointment of Superintendents; qualifications; jurisdiction; salaries.** There shall be in the office of each borough president a bureau to be known as "the bureau of buildings for the borough of ————." The presidents of the Boroughs of Manhattan, The Bronx and Brooklyn shall, each within the borough for which he is elected, appoint a superintendent of buildings for the borough. The presidents of the Boroughs of Queens and Richmond may, whenever appropriation is made therefor by the Board of Aldermen upon the recommendation of the Board of Estimate and Apportionment, each within the borough for which he is elected, in like manner appoint a superintendent of buildings for the borough. Every superintendent of buildings so appointed shall be a competent architect or builder

of at least ten years' experience. The president of a borough may, whenever in his judgment the public interests shall require, remove the superintendent of buildings of his borough. Every such superintendent shall hold office until his successor is appointed and has qualified. * * * L. 1897, ch. 378, §644.

§406. **Duties of superintendents; appointment and removal of subordinates.** Each superintendent of buildings shall, within the borough or boroughs in which he has jurisdiction, have charge of the administration of, and it shall be his duty, subject to and in accordance with the general rules and regulations established by the president of the borough, to enforce such rules and regulations and the provisions of this chapter and of such ordinances as may be established by the Board of Aldermen, and of the laws relating to the construction, alteration and removal of buildings or other structures erected or to be erected within such borough. Each superintendent of buildings within the limits of his appropriation shall have the power to appoint subordinate officers, as follows: Such chief inspectors of buildings, and such inspectors of buildings, engineers, clerks, messengers, assistants and other subordinates as in his judgment may be necessary and proper to carry out and enforce such rules and regulations and ordinances and the provisions of said laws of this chapter within the borough under his jurisdiction. The chief inspector of buildings shall be a competent architect, engineer or builder of at least ten years' practice. The inspectors shall be competent men, either architects, engineers, masons, carpenters, plumbers, or iron workers, who shall have served at least five years as such. It shall not be lawful for any officer or employee in the building bureau of any borough to be engaged in conducting or carrying on business as an architect, civil engineer, carpenter, plumber, iron worker, mason or builder, while holding office in the bureau, or to be engaged in the manufacture or sale of articles entering into the construction of buildings, or act as agent for any person engaged in the manufacture or sale of such articles, or own stock in any corporation engaged in the manufacture or sale of such articles. Each superintendent of buildings shall have power to designate in writing one of the inspectors so appointed by him to act on any survey authorized by law, or to perform such other duties as the said superintendent may direct. Each superintendent of buildings may designate a chief inspector of buildings, who, during the absence or inability of such superintendent shall possess all the powers and perform all his duties so far as they relate to buildings. Each superintendent of buildings shall have power to punish any employee, for neglect of

duty, or omission to properly perform his duty, for violation of rules, or neglect or disobedience of orders, or incapacity, or absence without leave, by forfeiting and withholding pay for a specified time, or by suspension from duty with or without pay not exceeding thirty days, or subject to the requirements of the civil service law remove or dismiss any inspector of buildings or other subordinate appointed by him or by any predecessor in office from the service of the bureau at any time in his discretion. Any officer or employee of or in the bureau of buildings of any borough, or police officer thereto detailed, who shall ask, solicit or accept or receive any money or other compensation for enforcing or for modifying or changing any order or requirement of said bureau shall be guilty of a felony. (As amended by L. 1905, ch. 648.) L. 1897, ch. 378, §648.

§407. **Continuation and repeal of existing laws; building code.** The Board of Aldermen is authorized by ordinance to regulate and restrict the height of buildings to be hereafter erected in the city. * * * The building code which shall be in force in The City of New York on the first day of January, nineteen hundred and two, and all then existing provisions of law fixing the penalties for violation of said code, and all then existing laws affecting or relating to the construction, alteration or removal of buildings or other structures within The City of New York are hereby declared to be binding and in force in The City of New York, and shall continue to be so binding and in force except as the same may from time to time be revised, altered, amended or repealed as herein provided. No right or remedy of any character shall be lost or impaired or affected by reason of this chapter. This chapter shall not affect or impair any act done or right accruing, accrued or acquired or penalty, forfeiture or punishment incurred prior to the time when this act takes effect or by virtue of any law repealed or modified by this chapter, but the same may be asserted, enforced, prosecuted or inflicted as fully and to the same extent as if this act had not been passed or said law had not been repealed or modified. The board of aldermen shall have power from time to time to amend said building code and said laws and to provide therein for all matters concerning, affecting or relating to the construction, alteration or removal of buildings or structures erected or to be erected in The City of New York, and for the purpose of preparing or amending such code to appoint and employ a commission of experts. The said building code which is in force May first, nineteen hundred and four, shall constitute a chapter of the code of ordinances of The City of New York. (As amended

by L. 1904, ch. 628, §2.) L. 1897, ch. 378, §647. Compare L. 1904, ch. 602, also amending this section.

§408. General provisions relative to existing building laws. The superintendent of buildings appointed by the president of the Borough of Manhattan shall within such borough in addition to the powers, rights and duties expressly conferred or imposed upon him by this act, possess and exercise all the powers, rights and duties, and shall be subject to all the obligations heretofore vested in, conferred upon or required of the board of buildings of The City of New York and of the commissioner of buildings appointed for the Boroughs of Manhattan and The Bronx so far as they relate to the Borough of Manhattan and except in so far as the same are inconsistent with or are modified by this act. * * * L. 1897, ch. 378, §646.

§409. Rules and Regulations. Each president of a borough shall have power to establish general rules and regulations for the administration of the building department of his borough, and such other rules and regulations as were authorized by law at the time of the passage of chapter three hundred and seventy-eight of the laws of eighteen hundred and ninety-seven to be established by the superintendent of buildings in The City of New York, or by the commissioner of the department of buildings in the City of Brooklyn, as said cities were formerly constituted. Such rules and regulations shall, so far as practicable, be uniform in all the boroughs, but the president of the borough shall have power, from time to time, to amend or repeal such rules and regulations when in his opinion it shall seem necessary or desirable. L. 1897, ch. 378, §645.

§410. Power to vary the provisions of law. Each superintendent of buildings shall have power, with the approval of the president of the borough in case the superintendent of buildings is a different individual from the president of the borough, to vary or modify any rule or regulation of the president of the borough or the provisions of this chapter or of any existing law or ordinance relating to the construction, alteration or removal of any building or structure erected or to be erected within his jurisdiction upon an application to him therefor in writing by the owner of such building or structure, or his duly authorized agent, where there are practical difficulties in the way of carrying out the strict letter of the law, so that the spirit of the law shall be observed and public safety secured and substantial justice done. Where such application has been filed with a superintendent of buildings the owner of such buildings or structure or his duly authorized agent shall have the

right to present a petition to such superintendent of buildings, setting forth the grounds for the desired variation or modification, and may appear before him and be heard. The said officer shall fix a date within a reasonable time for a hearing upon such application and shall as soon as practicable render a decision thereon, which decision shall be final. The particulars of each such application and of the decision thereon shall be entered upon the records of the building department of such borough, and if the application is granted a certificate therefor, together with a statement of the reasons for such decision, shall be issued by the officer to whom the application is made and shall be countersigned by the president of the borough. L. 1897, ch. 378, §650.

§411. **Appeals.** Each superintendent of buildings shall have power and it shall be his duty, subject to the provisions of law and of the ordinances of the Board of Aldermen, and the general rules and regulations established according to law to pass upon any question relative to the mode, manner of construction or materials to be used in the erection or alteration of any building or other structure erected or to be erected within the borough under his jurisdiction which is included within the provisions of this chapter, or of any existing law applicable to such borough relating to the construction, alteration or removal of buildings or other structures, and to require that such mode, manner of construction or materials shall conform to the true intent and meaning of the several provisions of this chapter and of the laws and ordinances aforesaid, and the rules and regulations established by the president of the borough. Whenever a superintendent of buildings to whom such question has been submitted shall reject or refuse to approve the mode, manner of construction or materials proposed to be followed or used in the erection or alteration of any such building or structure, or when it is claimed that the rules and regulations of the president of the borough or the provisions of law or of said ordinances do not apply, or that an equally good and more desirable form of construction can be employed in any specific case, the owner of such building or structure, or his duly authorized agent, may appeal from the decision of such superintendent where the amount involved by such decisio shall exceed the sum of one thousand dollars. Such appeal shall be heard by a board of examiners consisting of one member of the New York chapter of the American Institute of Architects, one member of the New York Board of Fire Underwriters, two members of the Mechanics and Traders' Exchange of said city, one of whom shall be a master mason

and one a master carpenter, one member of the Society of Architectural Iron Manufacturers of said city, and one member of the Real Estate Owners and Builders' Association of said city, who shall be an architect or builder, all of whom shall be appointed by their respective associations, and so certified to annually to the mayor of The City of New York, and the chief of the fire department of The City of New York. The said examiners shall each take the usual oath of office before entering upon the performance of their duties. The mayor shall annually designate one of said examiners as the presiding officer of said board. At least five affirmative votes shall be necessary to the granting of any petition by said board. No member of said board shall pass upon any question in which he is personally interested. The said board shall meet once a week upon notice from any of the superintendents of buildings. The members of said board of examiners shall be entitled to and shall receive ten dollars for each attendance at a meeting of said board, to be paid by the comptroller from an appropriate fund, to be provided by the board of estimate and apportionment and the board of aldermen, upon the voucher of the clerk of said board of examiners. The clerk of the board of examiners shall be appointed and may be removed by the mayor of The City of New York, and shall receive a salary of one thousand five hundred dollars. The appeal authorized by this section may be taken within ten days from the entry of a decision upon the records of the superintendent of buildings by filing with the officer rendering such decision and with the clerk of the board of examiners, and by filing with the clerk of the board of examiners copies of all papers required by law or by the rules and regulations of the president of the borough, to be submitted upon an application for a building permit, and the board of examiners shall thereafter fix a day within a reasonable time for the hearing of such appeal, and upon such hearing the appellant may be represented either in person or by his agent or attorney. The decision of the board of examiners, upon such appeal, shall be rendered without unnecessary delay, and such decision shall be final. L. 1897, ch. 378, §649.

§412. **Accounts; annual estimates; expenditures.** * * * L. 1897, ch. 378, §651.

§413. **Record of applications.** Each superintendent of buildings shall keep a record of all applications presented to him concerning, affecting or relating to the construction, alteration or removal of buildings or other structures. Such record shall include the date of the filing of each such application; the name and address of the applicant; the name and

address of the owner of the land on which the structure mentioned in such application is situated; the names and addresses of the architect and builder employed thereon; a designation of the premises by street number, or otherwise, sufficient to identify the same; a statement of the nature and proposed use of such structure; and a brief statement of the nature of the application, together with a memorandum of the decision of the superintendent upon such application and the date of the rendition of such decision. The books containing such records are hereby declared to be public records, and shall be open to inspection at all reasonable times. L. 1897, ch. 378, §652.

§414. **Books, plans, etc., to be delivered to borough presidents.** * * *

§415. **Annual registration of plumbers in bureau of buildings.** (a). Once in each year every employing or master plumber carrying on his trade, business or calling in the City of New York shall register his name and address at the office of the bureau of buildings in the borough of the said city in which he performs work, under such rules and regulations as the said bureau prescribes, and thereupon he shall be entitled to receive a certificate of such registration from said bureau, if, at the time of applying for such registration he holds a certificate from the examining board of plumbers of said city and is a citizen of the United States. Each person obtaining such certificate from the examining board of plumbers after the date fixed by the bureau of buildings for registration, may, however, register with the bureau of buildings within thirty days after the issuance of such certificate. Such registration may be cancelled by the superintendent of buildings for a violation of the rules and regulations for plumbing or drainage of such city duly adopted, or in force pursuant to the provisions of this section, or whenever the person so registered ceases to hold a certificate from the examining board of plumbers or to be actually engaged in the business of master or employing plumber, after a hearing had before said superintendent, upon prior notice of not less than ten days.

(b) The plumbing and drainage of all buildings, both public and private in the City of New York, shall conform to the rules and regulations lawfully adopted by the superintendents of buildings of the various boroughs. Said rules and regulations hereafter adopted, and any changes thereof, shall be published in the City Record on eight successive Mondays before they shall become operative. Suitable drawings and descriptions of plumbing and drainage shall in all cases be submitted and placed on file in the bureau of

buildings of the borough in which the work is to be performed, and the same shall not be commenced or proceeded with until the said drawings and descriptions shall have been so filed and approved by the superintendent of buildings. Repairs and alterations of plumbing or drainage may be made without the filing and approval of drawings and descriptions in the bureau of buildings, where such repairs and alterations do not include the use of new vertical or horizontal lines of soil, waste, vent or leader pipes. Notice of such repairs or alterations, however, shall be given to the said bureau before they are commenced, in accordance with the rules and regulations of said bureau. The superintendents of buildings shall have power to require sworn statements from persons registering under the provisions of this act before granting any permit to proceed with the work.

(c) The bureau of buildings in each borough is hereby charged with the enforcement of the provisions of this section and the next succeeding section, and in addition to such officers or employees as are now provided by law, the superintendent of buildings may appoint inspectors of plumbing, when appropriation for the salaries of the same shall have been duly made. Inspectors of plumbing shall, under the direction of the superintendents of buildings, in addition to their other duties, ascertain whether persons performing plumbing work in the City of New York are registered, as in this section provided, and shall file written reports in the bureau as to their investigations. (Added by L. 1913, ch. 754.)

§416. **Carrying on business of plumber in New York City without registration punishable by fine or imprisonment.** (a). It shall not be lawful for any person or co-partnership to engage in, perform, or carry on the trade, business or calling of employing or master plumber in the city of New York unless such person or each member of such co-partnership shall have been registered as provided in the foregoing section.

(b) It shall be unlawful for any person or co-partnership in the city of New York, unless said person or co-partnership shall have complied with the requirements of the preceding paragraph, to hold him or themselves out to the public as a master or employing plumber by the use of the word "plumber" or "plumbing" or words of similar import or meaning on signs, cards, stationery or in any other manner whatsoever.

(c) No person registered as provided in the preceding section, or who holds a certificate from the examining board of plumbers, shall, for the benefit of any person engaged in

the plumbing business who is not so registered, apply for, receive or make use of, any permit granted to him by reason of being so registered, or holding such certificate from the examining board of plumbers.

(d) Any person violating any of the provisions of this section or the preceding section shall be fined for such offense in a sum not exceeding two hundred and fifty dollars or by imprisonment for a term not exceeding three months, or by both, and in addition shall forfeit any certificate of the examining board of plumbers or any certificate of registration he may hold at the time of such conviction.

(e) Nothing in this section or the preceding section shall abrogate or impair any of the powers of the health department, the tenement house department, the board of aldermen, and the board of estimate and apportionment of the city of New York, with respect to the regulation of plumbing and drainage in the said city. (Added by L. 1913, ch. 754.)

IMPORTANT NOTICE

March 14, 1916

Chapter 5 of the new Code of Ordinances of The City of New York, known as the BUILDING CODE, has been revised,—except Article 6 entitled "Height, Size and Arrangement" and Article 25 entitled "Theatres and Other Places of Amusement." Articles 26 and 30 have been repealed. This pamphlet contains all revisions of the Building Code passed by the Board of Aldermen on or before December 14, 1915, to take effect on or before March 14, 1916. As the Building Code will likely be further revised by the Board of Aldermen, it is suggested that all persons desiring up-to-date information should either follow the proceedings of the Board of Aldermen as published in THE CITY RECORD, or *ask for bulletins* of future revisions at the Information Desk in the BUREAU OF BUILDINGS, BOROUGH OF MANHATTAN.

Form 45—1916